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STUDY ON SMALL COUNTRIES RESEARCH

REPORT ON MALAWI

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For

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I. INTRODUCTION

A. Purpose of Study

In September 1985 the International Development Research Centre (IDRC) approached the Centre for Social Research (CSR) with a request to conduct a study on research in Malawi as part of a global study in scientific research in small countries (countries with a population of less than 10 million) currently being done by IDRC.

The main objective of the study is to present a macro-picture of the state of scientific research in Malawi: research activities, financial resources available for research and their sources; manpower resources and training (a fuller tabulation of the objectives are in appendix 1). It is expected that the report on the study will be used as a tool for policy advocacy at national and international levels to mobilize resources towards research. In particular, the information will help IDRC in identifying appropriate mechanisms for supporting research, methods of building research capacity, and appropriate policies for training.

The issue of size of country has been specified because, from the perspective of the country it is thought to have a bearing on the level and scale of research that a country can expect to fund, and also because it helps facilitate the designing and developing appropriate training and educational facilities.

B. Methodology

The study was done mainly through secondary research: by studying files of the departments concerned. A good part of the information was also collected through interviewes with key personnel in research organisations. The quantity and quality of information varied considerably both within and between research institutions. The major problem was discontinuity in data in the sense that records for some years were not kept, or different kinds of information were collected in different years such as to make comparisons between years somewhat meaningless.

It has become apparent that of all research institutions only the Department of Agricultural Research (DAR) has comprehensive and fairly consistent time series data. Perhaps this should not come as a surprise for only agricultural research is properly institutionalized in Malawi: it has had a longer history and it is centrally co-ordinated. Other organizations are new or do not

produce summary information of their activities and resources. In such instances, attempts have been made to construct a picture of the organizations using the fragments of information from files and officers. All this goes in to explain why some research institutions have been dealt with in greater detail than others.

II. BACKGROUND INFORMATION ON MALAWI

A. Country Description

1. Geography

Malawi is situated in Central Africa lying between latitude 9° and 17° south and longtitudes 33° and 36°. It is landlocked with a total area of 118 484km² of which 24,208km² or 20 per cent are covered by Lake Malawi, the third largest in Africa, and other inland waters. The country is about 1000km from north to south and less than 200km from east to west, and it is bordered on the north and north-east by Tanzania, on the east, south and southwest by Mozambique and on the west by Zambia.

The country can be divided into four fairly distinct physical regions: the temperate highland area to the west of Lake Malawi with heights over 2,000m in the north; the Great Rift Valley which contains Lake Malawi and the Shire River which is an outflow of Lake Malawi and a tributary of Zambezi; the plateau of the Central Region west of the lake; the upland area in the South-east which is dominated by Mulanje Mountain and the Shire Highlands.

For administrative purposes, the country is divided into three regions: the northern, central and southern regions.

Climatological information can be summarized as follows: rainfall is concentrated in a four-month period from December to March, most of the country being dry from May to October; average annual temperatures vary considerably with altitude from 25° centigrade in some parts of the lower shire valley to 13° centigrade in the highlands of the Northern Region.

2. Demography

The last census done in 1977 put the population at 5,547,460 inhabitants implying an overall increase of 37% over the 1966 census total of 4,039,583, and an average annual inter-censal growth rate of 2.9%. The average population density in 1977 was 59 persons per square kilometre. However, Malawi's population is unevenly distributed, reflecting its history, different stages of economic development, and the topography of the country. The Southern Region where more than one third of the population is concentraed, is the most densely populated area with an average density of 87 persons per square kilometre.

Population figures show an increasing rate of urbanization in Malawi but

that the population is still predominantly rural. In 1966, 5% of the population was registered as urban. This rose to 8.5% in 1977 and it is estimated that this was 11.7% in 1984.

B. Economic Overview

The economy of Malawi is based on subsistence and cash crop agriculture, which contributes nearly 40% to the GDP and provides 90% of the total domestic exports. The country produces its own basic food stuffs (principally maize, also rice and cassava) and exports tobacco, tea, sugar, groundnuts, rice and cotton.

As can be seen from the figures presented in table 1, there has been significant growth as well as structural change in the economy. Within agriculture the estate sector has expanded considerably, such that smallholder agricultural output as a percentage of total agricultural output has fallen from 93% to 80%. Other remarkable changes have been in manufacturing and domestic savings.

The basic tenet of Malawi's development strategy has been the emphasis on rural development projects in order to improve smallholder production and incomes, as well as generate resources needed for the eventual development of other sectors. Two factors have been the major conditioners of this:

i) Malawi possesses no large mineral deposits, though commercially exploitable bauxite deposits exist.

ii) Malawi is well endowed with good rainfall, fertile soils and plenty of labour.

Since 1964 Malawi's economy has maintained a strong upward trend and is acclaimed for by some the best performance amongst small landlocked countries. It is believed by the World Bank and consequently International Monetary Fund to be one of the few real world examples of the adoption of their current policy prescriptions for least developed countries. The success is said to be due to a good socio-political environment, a civil service with high intergrity and pursuing non-distortionary open-market oriented economic policies.

Some authors on the Malawian economy are dubious about the authenticity of these claims, arguing that there has been a tendency amongst those who hold Malawi as a virteous case to exaggerate the strengths whilst ignoring most

of the weaknesses. An important motif in their argument is that the pattern of growth chosen is not optimal especially when distributional issues are taken into consideration. Distributional issues aside, they express doubt concerning Malawi's ability to maintain the rate oof growth it has so far been experiencing.[1]

In fact this predicament, as it were, is accepted officially: a government report reveals that during 1979 - 1982 real GDP reached a stand still. Most of factors leading to reduction in economic activity were external: it blames rapid deterioration in Malawi's terms of trade, the 1979-80 surge in oil prices, disruptions in the flow of trade on Malawi's main transport link to outside markets, the decline in domestic investment expenditure reflecting the completion of major projects in infrastructure, and historically high interest rates at international markets.

However, the report still concludes that there is reason to have positive expections about the economy and states that "with economic expansion well established starting 1984, it now appears that GDP growth will more than exceed the 3.1 per cent population growth, in the foreseable future".[2] This still leaves as unsure about many aspects of this GDP growth. Suffice it to mention one: by comparing its rate of growth to population growth, we still do not know if this means that more goods and services will be available to the majority of the people.

For some the answer to this comes by examining the National Rural Development Programme (NRDP) - the module for improving the standard of living of the majority of the people. A derivative of the revereed concept of Integrated Rural Development (IRD), the NRDP has not been very successful. This is not perculiar to Malawi: despite sloganeering the practice of IRD has fallen far short of the ideal in most countries where it has been implemented. In the case of Malawi smallholder production has been faltering, and it is generally agreed that inadequate price incentives have been the major factor responsible for this.[3]

III. HISTORY OF THE GOVERNMENT'S STRATEGY FOR THE COORDINATION AND ORGANIZATION OF RESEARCH IN MALAWI

A. National Coordinatory Organisations

From the very beginning the Government of Malawi's implicit policies on research put emphasis on agricultural research. Given the fact that the economy is heavily dependent on agriculture, agricultural research issues were appropriately pertinent. So the first body ever formed to coordinate research was the Agricultural Research Council (ARC), and all research in agriculture was under its control. The Council disbanded in 1965 when various research came under the control of their parent organizations.

In 1969, the Natural Resources Research Committee (NRRC) was appointed to "co-ordinate the country's research efforts in the field of agriculture and natural resources and to give advice on priorities for research to the National Development Council (NDC)[4] as well as to various research organizations, in the country". It was chaired by the Secretary for Agriculture and Natural Resources and comprised the heads of various research organizations, the head of the Faculty of Agriculture in the University of Malawi and the representatives of the Economic Planning Division of the Office of the President and Cabinet, and the Ministry of Finance.

However, after some years a need was felt for a national body to co-ordinate all of science research activities outside natural resources. This body which superceeds the NRRC and the former ARC is the National Research Council of Malawi (NRC) established in 1974. The Secretariat of the NRC is a section of a department in the Office of the President and Cabinet.

The NRC was given a mandate to "co-ordinate all aspects of Scientific research as well as the development of technology in Malawi". So the main functions of the NRC are co-ordinatory and advisory: it does not have direct control over research but ensures that programmes are relevant to Malawi's priorities and that activities do not overlap. It collects, examines and disseminates research reports and information of the country as a whole. It also advises the Government on scientific and research policy in relation to the country's development programme. It has the responsibility of liaising with external organizations in soliciting funds and research information to aid the country's scientific research efforts. The NRC is also responsible for compilation and maintenance of National Register of Research Projects and Workers, and Research Publications.

The NRC, through its membership, wants to establish close and strong working relationships between Government, the University, the Public and Private Sectors in all areas of research. The councils Chairman is the Secretary to the President and Cabinet, and members are:

- Secretary for Agriculture
- Deputy Secretary, Agriculture
- Chief Agricultural Research Officer
- Director, Tea Research Foundation for Central Africa
- Chief Economist, Economic Planning Division
- Representative for the Government Treasury
- Representative for Industry and Technology from Ministry of Trade, Industry and Tourism
- Representative for Natural Sciences from the University
- Representative for Health Sciences from Ministry of Health
- Representative for Agricultural Sciences from the University

The day to day functions of the NRC's secretariat include finding sources of external aid and training for research; examining and clearing research proposals from researchers dispersed all over the country to ensure the relevance of their research to country's needs and to avoid overlapping. Where necessary it helps facilitate the researcher's job.

As of now, the staffing of the Secretariat is two Professional Officers, a Stenographer and a Messenger.

Given their fields of academic specialization and their number they have probably done well. But their best attempts are far below what the researchers community in Malawi would demand of such an organization. More specifically, the secretariat needs to find more funds. The small staff of NRC, and also their training (one in education and the other in public administration) seems to present a handicap when it comes to establishing the effective rapport with international donors that will ensure the flow of funds into the country.

The successes of NRC in securing funds are recorded in appendix 2 and in appendix 3 are shown the projects which were tabled to donors for funding as at Nov. 1985. In view of Malawi's need for research and the availability of international funds these records show very modest successes and attempts in securing funds. The NRC has existed since 1974, but it would appear researchers are not yet clear how it operates or how they can benefit from it. For example many researchers are yet to know the procedures for clearing

a proposed research project: What general guidelines are followed? As a result they have developed a negative attitude to it rather than seeing it in light of its positive attempt to co-ordinate research.

Lack of knowledge has led to unwarranted fear amongst potential researchers that their research proposals will not be cleared and as such they do not go out to exploit their chances. So the NRC probably receives few research proposals for presenting to donors.

The NRC could therefore do two positive things:

1. Contact all donors and get details of the kinds of research they are interested in and pass the information to all potential researchers.

2. Publicise itself: its beneficial role to researchers.

June 1985, saw the resuscitation of the ARC, this time with slightly different objectives. It is to form part and parcel of the implementation of the Agricultural Research Master Plan (ARMP) being done with financial assistance from the World Bank. The ARMP has been formulated after disatisfaction with the present structure and performance of the Government's department of agricultural research (DAR). Its major present task is to review and recommend the ARMP in view of available resources, and in conformity to national objectives. After that it will undertake to monitor and evaluate the progress of the implementation of ARMP, ensuring that resources and research activities act for the furtherance of the ARMP.

B. Research Organizations

The detailing of organization of research institutions forms the subject of section IV. In this section we just want to give a brief history of the evolvement of institutionalized research.

We have already mentioned that agricultural research has the longest history of institutionalization which dates back to colonial rule. The White settlers, seeing that certain crops like tobacco and tea had a big potential for earning income, established small research institutions for the crops, to study and find solutions to problems found by the local growers. At the eve of independence, some rudimantary research stations existed for these cash crops. With the coming of the new Government these stations were strengthened but

also diversified into food crops. At that time the promises of the green revolution were believed in total and most developing countries launched programmes to test and develop strains suitable to the local environment. The size of research stations grew parallel to that of the parent ministry.

Later on it was decided that crops like tobacco, tea and sugar which earn substantial amounts of foreign exchange should finance their own research. So Government funded research concentrates on crops like cotton, maize, beans and groundnuts.

The story is some what different in case of natural and social science research. Almost all research in natural sciences is done in the University. Since the University can afford only a small sums of money for research, most of the research activities are small and usually restricted to laboratories and areas near the campuses.

A substantial amount of it tends to be of little practical applications in Malawi and is intended mainly to generate materials for teaching purposes. In recent years there have been proposals to establish centres for co-ordination and carrying out research in the natural sciences, for example in technology, but these have not yet been implemented.

Social Science research has been carried out by three groups of people:

i) itinerant western researchers - these have come in and gone out of Malawi - usually they have been curious to learn about certain aspects of Malawi's or African culture and have tended to use anthropological and historical research methods;

ii) the second group is that of the members of the University - especially the faculty of social science. The most active departments in the faculty have been economics, sociology and history;

iii) and of late consultants for international organizations. Their area of specialization has been the economics and sociology of agricultural and rural development.

Similar to natural sciences, social research has not been well co-ordinated probably due to the nature of researchers, results and publications have not been well documented. (In fact many good publications on Malawi are

not available in Malawi). Attempts are now being made with the help of the Centre for Social Research to coordinate and document research findings and publications.

In summing up, the first point is that the Government has long recognised the need to co-ordinate research but in the emphasis is put on agricultural research. The actual organizations co-ordinating research have been changing overtime: each change reflecting the broadening of the vision for the development of research in the country. Secondly, though these co-ordinatory bodies have done their part, researchers still lack funds and have to work within small budget which inhibits setting ambitious long-term research goals.

IV. RESEARCH INSTITUTIONS

A. Agricultural Research Institutions

1. Department of Agricultural Research

a. Organization and Purpose

The structure of the Department of Agricultural Research is presented in figure 1. At its head is the Chief Agricultural Research Officer, who is assisted by two deputies: One for Research Coordination and the other for Technical Services. The former, apart from co-ordinating research on crops and livestock and farm machinery, oversees all activities in statistics and data processing, as well as agricultural economics and adaptive research. The DAR is administered through research stations each of which has substations and district sites. Each research station has its own budget and is controlled by an officer-in-charge (see table 2).

The DAR research programmes emphasize the needs of smallholders, farmers in food and cash crops (with the exception of tea, tobacco and sugar), horticulture, livestock and adaptive research. Hence such crops as maize, cotton, groundnuts and rice have featured very highly. Programmes also exist in farm machinery and crop storage.

The DAR also provides such services as seed multiplication and certification, information about soil and water conservation, disease and pest control, and diagnostic expertise.

For each of the three levels of staff directly involved in research viz Professional Officer (POs), Technical Officers (TOs) and Technical Assistants (TAs), the respective minimum educational requirement is a B.Sc. degree, a diploma, or a certificate in agriculture.

b. Resources

The total operating budget of the DAR was U.S. $2.6 million in 1984/85. It is funded by the national budget and by external donors (see table 3). Despite the reasonable high allocations to Agriculture, the proportion for DAR is not large. In table 4, we present an analysis of agricultural budget allocation in Malawi. On average about 0.9% of the total budget is allocated to research although over the few years this has increased to over 1% of the total budget. As a percentage of agricultural GDP, the allocation to DAR has been increasing. Since 1982 this proportion has been 1% still falling

below the figure of 2% set by the World Bank but still significantly higher than the average of 0.65% of agricultural GDP for 12 countries in sub-Saharan Africa studied by ISAR/IFPRI in 1981. The overall trend is set in Table 5. An analysis of the DAR expenditure done by the German Foundation for Agriculture revealed three things:

i) That the DAR does not suffer from the classic problem of many national agricultural research systems in developing countries, i.e. that salaries and wages occupy a major proportion of the budget leaving insufficient funds for general research operating costs. For example, between 1976 and 1981 the lowest and highest notches of proportions of budget allocated to salaries and wages were 22.6% and 30.6%.

ii) That the large number of minor stations tend to exhibit no economy of scale savings and although the three major research stations have about 80% of staff they receive less than half of the budget. (See table 6).

iii) That the DAR does not have a top-heavy administration : an analysis of the budget allocation reveals that less than 10% of the budget is allocated to the head office and that 90% of the funds are used for station based research.

iv) Export crops get more resources than food crops.

An analysis of research expenditures for major crops vis-a-vis their relative value of the crop to total agriculture output shows that rice and cotton get a bigger allocation than their constribution to total output. Two crops that are allocated disproportionately less resources compared to their contribution to national output are maize and groundnuts.

Using this as a criteria to judge the suitability of resource allocations, the revised infrastructure network of DAR seeks to adjust the disproportionate allocation to cotton by closure of the Makoka Research Station.

The DAR has a total staff of 520 persons which include support staff (such as clerical workers, security guards and skilled field labour), technical assistants, and senior technical and administrative staff).

c. Future directions

It has been alleged that though the DAR (and its associates) have had a lengthy period of association with the international agricultural research system, this has not produced the expected flood of improved varities and crops nor significantly changed the operation or technologies used by the DAR. It is believed that the problems lie within and not without the system. Some have blamed the "inherent weakness" of the DAR and lack of experienced staff while others blame the poor organization structure and the lack of clearly defined goals.

The major structural problems of the present system (which is already changing) were:

i) A senior scientist was appointed as station-head. This required considerable administrative duties which occupied most of his time. Given the large number of research stations and small number of professional staff, some expertise was being wasted.

ii) Large number of stations placed a heavy burden on the small budget. The solutions proferred include:

(1) The establishment of national co-ordinators - one responsible for the technical side of research and the other responsible for Research Stations and services.

(2) The rationalization of research stations - eventually establishing three regional research centres. Some stations will be closed down.

(3) Establishment of mechanism to define agricultural research priorities. (The Agricultural Research Council).

(4) The suggestion that funds should be allocated through commodity categories rather than through research stations, to help overcome the tendency for expenditure not to be heavily weighted towards actual research operations and programmes.

Another major problem in the DAR was its emphasis on genetic and other scientific research to the neglect of social and economic ramifications of their results and extension advice. This is now being corrected through

the use of agricultural economists and adaptive research methods.

2. Department of Veterinary Services

a. Organization and Purpose

The Chief Veterinary Officer has overall responsibility for the Department of Veterinary Services (DVS) as is shown in figure 2. The aim of the DVS research programme, the Livestock development, is to improve the quality of livestock through better disease control, nutrition and management. Currently there are three research projects in pursuit of this aim: East Coast Fever Project; African Swine Fever Project and New Castle Disease Project.

The research programme has links locally with Bunda College of Agriculture and externally with a number of countries and organization including:

- FAO's East Coast Fever Project in Zambia
- The Department of Veterinary Services in Zimbabwe, and
- ILRAD, ICIPE in Mugaga and the Government Veterinary Laboratory in Nairobi, Kenya.

b. Resources

The DVS staff number 78 including 56 non-professional staff. Most of the professional staff are involved in provision of services and extension so that only 9.5 full-time-equivalent persons are devoted to research.

Fifteen percent of the US $3.08 million total budget of DVS comes from government funds. Several sources make up the balance including: UNDP/FAO, EEC, GDA, DANIDA and ODA of the U.K. It is estimated that US $140,000 is dedicated to the research programmes of the DVS.

3. Bunda College of Agriculture

a. Organization and Purpose[6]

Bunda College of Agriculture was established in 1966 and is a faculty of the University of Malawi. Its primary objective is to train Malawians in agriculture at diploma and degree (B.Sc.) levels.

The college collaborates with the Ministry of Agriculture to ensure that its training and research programmes are relevant to the country's needs

and priorities, and to avoid duplication of effort. In several research projects carried out by the DAR, the college staff have been participants or consultants. The DAR has also given some research topics to Bunda on a contractual basis - for example the bean/cowpea research project.

The college is comprised of four departments which are: agricultural Engineering, Crop Production, Livestock Production and Rural Development. The objectives of these departments and their research projects are listed in table 7. In appendix 4 we show research projects by Bunda College staff that received funds from Research and Publications Committee in 1981 and 1982.

The College's staff available for teaching and research number 49. Twenty are Ph.D.s, 26 M.Sc.s and 3 B.Sc.s. Since responsibilities of staff include both teaching and research, an equivalent of only 9 full time persons are dedicated to research.

The budget of the college for the 1983/84 year was US $36,000. The research budget was about US $51,000: about one fifth came from University funds and the balance from donor funds including IDRC, FAO, IFS and USAID.

4. Tea Research Foundation

a. Organization and Purpose

The Tea Research Foundation is a private organization which does research in all aspects of tea production, and also provides advisory and extension services to tea producers in Malawi, Zimbabwe and private companies in South Africa. It has links with the Tea Association of Central Africa, Zimbabwe Tea Growers Association, private companies in South Africa and the Transkei Tea Development Cooperative.

In Malawi Tea is grown mainly as an estate crop and because of that more research is aimed at estate production. However, the plant improvement and physiology programme is conducting a project for the Small Holder Tea Authority.

b. Resources

The Foundation is headed by a Director who has an assistant and is responsible to a board of Governors. It has a total of 56 staff. A breakdown of research staff by professional displine is provided in table 8.

There are three main sources of funding for the foundation: taxes from the tea industry, revenue from the Foundations experimental crop and materials; and the UNDP.

5. Tobacco Research Authority

a. Organization and Purpose

The Tobacco Research Authority was created in 1980 by the Malawi Government as part of a decision to make all commercial crops that made enough profit to finance their own research programmes. As such it is a private organization.

The authority has two research stations, each headed by an officer-in-charge. Overall responsibility rests with a General Manager. There are four departments in the research authority: Plant production, Plant Breeding, Plant protection and Liaison. The programme is both estate and Smallholder oriented. Research activities are in the following nine areas:

(i) Flue-cured agronomy - fertilizer and herbicides trials;

(ii) Flue-cured physiology - curing experiments for efficient use of fuelwood, minimum tillage using draught animals and eucalyptus;

(iii) Flue-cured breeding - variety trials, nitrogen responses and trials to test resistence of varieties to Fusarium;

(iv) Engineering - comparison of performance of rectangular Us conventional flues, and testing effects of forced draft to the furnance under varying circumstances;

(v) Fire-cured breeding - testing of new fire-cured breeding lines, varietal responses to fertilizer, assessment under smallholder conditions of selection of crosses, selection of foundation seed stock;

(vi) Burley breeding - evaluation of the breeding carrying the Aurea Colurr gene, making the crosses and single plant selections, and breeding of high-yield Burley varieties with resistance to Fusarium wilt and nematodes;

(vii) Burley agronomy - effects of topping height, spacing within the row, and levels of nitrogen upon yields, and quality and proportion of red leaf on variety Banket Al; effects of nematicides in various combinations with and without ethylene dibromide, comparison of the effects of different sources of nitrogen; and determination rates of nitrogen necessary to produce burley tobacco on soils traditionally used in flue cured tobacco;

(viii) Pathology - determination of the effects, if any, of topping methods on the incidence of hollow stalk; and

(ix) Oriental tobacco - comparison of manure and chemical fertilizer five oriental varieties.

Locally the authority has linkages with the government agricultural research system which provided expertise in soil analysis and phytosanitary services. Representatives from the tobacco estates also sit at the authority's boards' planning meetings.

Externally, the authority has linkages with the Kutsaga Tobacco Research Station in Zimbabwe, North Carolina State University and the Tobacco Research Institute in Rustenburg in South Africa.

b. Resources

The total staff of the Authority is 70 person, 48 of whom are technical assistants and support staff. There are 15 professional Research Officers (four of which assist as part time research administrators).

The authority is a commodity - financed institution, relying heavily on a grower's levy and programme income. However, the FAO has given it assistance to the tune of US $150,000. In 1983 a study showed that the authority's average spending was US $175,000 on capital development and US %351,000 on recurrent costs.

6. Total human resources available to Agricultural Research

Table 9 provides a summary of staff engaged in agricultural research. Of the 1,229 authorized posts in all institutions we have reported, 978 are currently occupied. 943 of these are held by nationals. There are 38 expatriate staff, 18 of which are serving in authorized posts.

In table 10 we show a summary of professional staff effort. It shows that

38 percent of the professional staff time is spent on commercial crops, only 13 percent is spent on food crop research. 13 percent on livestock research.

Table 11 shows the overall disciplines of the professional staff in various programme areas and their levels of training. Food crop research programmes involve 27 professionals; 20 of these are nationals (14 with B.Sc. degrees, 4 with MSc. degrees and two with Ph.Ds), and seven are expatriates (all with Ph.D.s). The major discipline areas represented are plant breeding, agronomy, crop physiology, entomology, nematology, farming systems and pathology.

Research programmes for commercial crops involve 41 professionals. (7 have Ph.Ds - of whom 3 are expatriates; 15 have MSc. degrees - of whom 3 are expatriates and 19 have BSc. degrees - of whom 2 are expatriates. Crop science, agronomy, crop physiology, entomology, pathology and agricultural engineering are the main discipline areas.

Thirty seven professional staff are working on livestock research programmes. The configuration for qualifications (including expatriates) is 13 (3) Ph.D's, 5 (3) MSc's and 19 (1) BSc's. Most of the research is done in areas of animal science, breeding, nutrition, pathology, physiology, production, range ecology and pasture management.

Other programme areas take up 51 professional staff. Twenty four are BSc holders including one expatriate, 19 are MSc holders including 2 expatriates and 8 are PhD holders including 4 expatriates.

The training plans for 1984 for staff in agricultural research institutions were as indicated in table 12.

B. University of Malawi

1. Chancellor College and the Polytechnic

a. Organization

The University of Malawi was established in 1964. It adopted a collegiate structure incorporating five colleges namely, the then Soche Hill Teacher Training College, the Institute of Public Administration and Chancellor College, the Polytechnic and a new college of arts and sciences. Two years later, the college of Agriculture in Lilongwe also came under the umbrella of the University. In 1973 Soche Hill Teacher Training College, the Institute

of Public Administration and Chancellor College were almagamated into a single Chancellor College at a new campus. A fourth college - Kamuzu College of Nursing in Lilongwe, was added in 1979. We have already dealt with Bunda College of Agriculture under agricultural research and since the college of Nursing is a new establishment we will exclude it.

The University is headed by a Chancellor, who at present is the Head of State. Under him is a conventional university organizational structure with academic, administration, Finance, Estates and Library divisions. Each section is headed by a person of reader status (or associate professor).

The organizational structure of the constituent University Colleges follows pattern as that of central administration. Each college is headed by a principal and a registrar under him. The administrative aspects are under the direct control of the Principal. However, academic issues are controlled through many channels using university and college committees. Basically a faculty (of which there are five in chancellor college and three at the Polytechnic) has its own internal administration mechanism and is a focus academic decisions though many of them are still the prerogative of the central university administration. The faculties are however represented in most of the central administration's decision making committees.

b. Staffing

In the 1985/86 academic year, the University's central administration has 17 professional staff and 42 clerical and support staff. Chancellor College and the Polytechnic have 197, 363 and 84, 312 professional staff, clerical and support staff respectively. (See table 13). The table shows that over the past years there has been a strong trend towards Malawianization of posts. Though the number of expatriate staff has not fallen significantly, the ratio of Malawian to foreign staff has increased considerably. (0,427 for 1971/72 and 2.425 for 1985/86). Apart from that the levels of education and training of staff has increased.

Consequently, the output from these university colleges has increased substantially, and the variety or options taken by students has also widened. At the university level, 94 students enrolled in 1965/66 and this rose to 1,810 in 1982/83. In 1967, 31 students graduated from the University of Malawi (all of them in education) and this rose to 724 by 1983 with a cumulative total of 4,269.

c. Research Activities

The Primary objective of the University is to train students mainly at the diploma and degree (BA) levels, and to a smaller extent at MA level. Though the staffing condition in the university has been improving, it has not matched the increase in student intake. This has resulted in high teaching loads reducing the amount of time the staff can be involved in meaningful research. This is more critical for those dealing with social sciences where travelling and participant observation are almost always part of research activities.

Another important limiting factor is finances. The University sets aside only MK40,000 per year for research activities. The funds are administered through its Senate Research and Publications Committee (RPC). An applicant is entitled to only MK3,000 per annum. Though extra funds are received from donors like UNICEF, IDRC and IFS, there are small and are normally for research activities of interest to the donors themselves.

An insight into the research activities of staff members of Chancellor College and the Polytechnic can be gained by examining the RPC Biennial Report (1981/82). See table 14 and appendix 4). Table 14 shows that a total of MK71,828 (31,828 came from other sources into the RPC fund) was granted to faculties, faculty of Agriculture took the largest share followed by faculty of science. These are also the faculties with the highest number of staff. It would seem then that most of the funds that the university sets aside for research goes to agricultural and natural sciences. This well shows the priorities of the RPC which puts emphasis on research that is relevant to Malawi's national interests. Given the agricultural nature of the Malawi economy, agricultural research is a top priority. This is shown even at the National level: agricultural research systems are the most developed.

These facts however are just reflections of the university's priorities and not the total research activities of the faculties. For example, due to many reasons peculiar to the field of social sciences, research tends to be more expensive since it is not done in laboratories. The long time that has to be spent interviewing and the high costs of travel make most meaningful research beyond the financial capabilities of RPC.

d. Financial Resources

We have already mentioned that the University sets aside about MK40,000 every year for research. Otherwise most costly research is financed through contracts with or by the researcher soliciting funds from national and international organisations.

The overall recurrent expenditure of the University (including Bunda) was MK8,652,562 in the 1984/85 academic year - of which MK2,836,146 was spent on Chancellor College and MK1,577,168 on the Polytechnic. Funding for physical developments is mainly from international organizations like International Development Agency of the World Bank, USAID and ADB.

2. Centre for Social Research

a. Organization and Purpose

In December 1971, the University Senate established an Institute of Social Research, the predecessor of the Centre for Social Research. The Institute faded away due to administrative loopholes and lack of patronage. Attempts to revive it led to discussions between University of Malawi, the Malawi Government and UNICEF, the result of which was a submission of a project proposal to UNICEF to establish an Institutional framework for UNICEF Project Evaluation. The objectives of the defunct Institutes of Social Research stressed the Institutes service to the University, but the 1977 project submission (i.e. Centre for Social Research) stressed service to the Malawi Government, and particularly to those Ministries and Departments responsible for the execution of UNICEF -aided projects. These were:

(i) to appraise, monitor and evaluate selected UNICEF-assisted projects in Malawi;

(ii) to organize seminars and workshops for Government personnel engaged in planning, data collection, data analysis and evaluation;

(iii) to compile and publish the project results.

The narrowness of these objectives was a reflection of UNICEF's desire to promote the monitoring and evaluation of its projects and programmes by persons closely involved in them and by locally based organizations. However, as time passed the activities of the Centre became much broader than was originally intended at the time of project submission and can be divided into four broad categories:

(i) Evaluation of Government UNICEF-assisted projects.
(ii) Evaluation of other Government projects.
(iii) Evaluation of non-government projects.
(iv) Other non-evaluative research work.

Though the project proposal for Centre for Social Research was approved in June, 1978, it started operating in 1979.

The Centre is governed by an interdisciplinary committee composed of representatives of all the faculties of the University. Though it was originally stated that some Government Ministries would be asked to nominate representatives, this has not been implemented. The centre has a facility for affiliating interested researchers to the Centre. Their research work though exogeneous to the Centre's programme has to be approved by the University and the government on basis of relevance to Malawi's research priorities. Up to date, 18 researchers have been affiliated to the Centre. There also exist opportunities for training and orientating government personnel to social Research through the Research Assistants Programme introduced in 1982. So far there have been six beneficiaries from the programme: five from the government and one from the University.

b. Resources

The Centre's ambitious plans have met with a lack of full-time experienced personnel. For most of its time the Centre has had only two full-time research staff. Despite the addition of two research associates to the staff in April, 1982, the need for more staff is still being felt. Thus many times the Centre has relied on the sub-contracting of its projects to University's teaching staff particularly from Chancellor College.

One great disadvantage of using teaching staff has been that most of them could undertake any major research activities only during the long vacation due to the heavy teaching loads. In any case three months vacation is not enough for most major research projects especially in view of the fact that requests to do research come in throughout the year in fixed-time schedule.

Apart from using teaching staff, the Centre has a facility for Research Assistantship. On this facility appropriate persons can be attached to the CSR on a research project to acquaint themselves with research protocols and methodologies.

UNICEF has been the CSR's major source of financial support. In 1985, it had an estimated overhead budget of MK123,108 of which MK81,044 was contributed by UNICEF. (The rest came from the University). Out of the MK123,108, MK47,097 was spent on salaries and wages. Most of the CSR's research projects are paid for by its clients (see appendix 5 for a list of projects done under

the auspices of the CSR).

C. MINISTERIAL DEPARTMENTS

Occassionally most government departments will conduct a survey or feasibility study as part of project initiation, implementation or evaluation. In such instances this involves collecting data from secondary sources to facilitate making budget estimates or projections or project variables. Very few ministries have a department which carries out research as routine. We feel that only three need special elaboration namely - Ministry of Forestry and Natural Resources (MFNR), Ministry of Education and Ministry of Health. All government departments rely heavily on the Natural Statistical Office (NSO) to generate data for them. For this reason and also for the fact that it supplies basic data for most researchers in Malawi, the National Statistics Office will be discussed here though its primary function is not research.

1. Forestry Research Institute of Malawi (FRIM)

a. Organization and Purpose

The FRIM was established in 1957 as part of the then Agricultural Research Council (ARC). At that time all agricultural research was organized under the umbrella of the ARC. When the ARC disbanded in 1965, the research personnel went to their parent departments. Previously the FRIM was in Dedza district of Malawi as part of Malawi College of Forestry. But in 1971 the institute was moved to Zomba district in the Southern Region to allow room for expansion.

The location of FRIM in the MFNR is shown in figure 3. As an be seen, the institute is a part of division of management services of the Forestry Department in the Ministry. It is divided into 8 sections each of which should be headed by a professional officer with a M.Sc. degree. Most research activity is concentrated in Silviculture and Tree Breeding Sections.

b. Staffing

The establishment of FRIM has 15 posts for professional officers but only 7 are filled - 2 silviculturalists, an entomologist, a geneticits, a tree breeder specializing in hybridization, a soil scientist and a mensurationist. The 7 POs have the qualification of M.Sc. There are also 7 technical officers with a diploma. As at 3/2/86 only 65 posts of the 88 (professional, technical and support) were filled - most of the vacant posts are for professionals. This is said to be due to a lack of trained specialists. It is being proposed

to increase the establishment to 142 persons.

c. Financial Resources

The funding of FRIM is by normal government budgets approved by parliament every year. Apart from that funds have been received from IDRC and IFS for special research projects. For example in the past five years IDRC has funded a soils sub-project with the objective to reclassify silvicultural zones in Malawi, and an agroforestry project aiming at encouraging small farmers in having small wood plots.

2. Ministry of Education and Culture

Since 1982, there have been 2 persons in the Ministry working full time on research (one expatriate Ph.D., 1 local B.Sc.) with 3 others working perhaps an average of 4 hours per week on research. Most of the research has been funded from the recurrent budget (there is no budget line), though a number of studies involving consultants have been funded from the 4th and 5th International Development Agency's (IDA) Education projects. The one expatriate researcher is funded entirely from a N.N.D.P. - UNESCO project.

It should be clear from the foregoing that this research unit is an adhoc decision of the donors in conjuction with the government to strengthen the information base for planning and implementing their projects. It does not have clearly stated goals and structure. However, it is one of the few ministries which have unit dealing with relevant research.

What makes this ministry more interesting is its expedience to establish a mechanism for co-ordinate educational research - the Coordinating Committee on Educational Research. The stated purpose of this committee is "to co-ordinate all research in the field of education with a view to ensuring the best use of available resources and to avoid the duplication of research efforts". The Committees' functions are to:

(a) Act as a clearing house through sharing information about on going research.

(b) Assist and advise on the research methodology of any proposal submitted for funding to, or solicited by, the Ministry of Education.

(c) Produce an annual digest of education statistics and research.

In this respect the ministry excels second only to Ministry of Agriculture and its related institutions.

3. National Statistical Office

As can be seen from appendix 6 the primary purpose of the National Statistical Office (NSO) is "to provide statistical information". In practical terms, this means that the NSO just collects information which has proved (through experience) to be usefull especially in planning and implementing government projects: it does not undertake in depth analysis of the information collected. Usually the users are left to interpret information in the way that it suits their situation.

The establishment of NSO is 314 persons, 23 of whom are Professional Officers (normally with a minimum of a University degree). At present 6 posts for Professional Officers are still vacant, and a few others for Clerical Officers who failed to report for duties. There are 4 divisions and ten sections. These and their functions are clearly shown in appendix 6.

Two activities of NSO for which the NSO is well known to Researchers are the Censuses and Agricultural Surveys. Since Malawi achieved independence in 1964, the NSO (earlier on the department of Census and Statistics) has conducted two censuses one in 1966 and the other in 1977 with the financial and technical assistance from the British Government and the United Nations. An additional analytical report was produced in 1984 for the 1977 census. Of the agricultual surveys the most popular are the National Sample Surveys of Agriculture (NSSA). The primary aim of NSSA is to provide information for the planning, implementation and evaluation of National Rural Development Programme (NRDP). However, independent Researchers in rural and agricultural development find them almost indispensable.

V. OVERALL MANPOWER AND TRAINING SITUATION

A. Manpower and Education Policies

A lot of scholars have expanded on the role of human resources in development. The same could be said about research. Whilst the role of education in general development may be ambivalent or complex, its connection to research is somewhat clearer: given resources, the better qualified and experienced researcher will do a better job.

Malawi has no clear statement of policy on manpower training and education. One can only connect the bits and pieces of information and practice to indicate athe strategy that the government is following. The closest to a policy statement that can be found is in the "Statement of Development Policies" - a policy document produced by the government for 1971-80.

Tersely, the statement talks of the governments recognition of the role of trained manpower in development and the bottlenecks that its absence causes and that therefore efforts will be made to accelerate training and education of the labour force. For the day to day management, the government has been using "plans" drawn by different government departments and donor agencies which were then centrally executed by the department of personnel management training (DPMT).

Although this is the situation, the practice of manpower management by government shows that there are two important factors conditioning it.

i) Given Malawi's extreme shortage of fiscal resources and the many claims on revenues, all educational strategies must have as a key objective greater efficiency in resource use;

ii) Given the stage of Malawi's development, emphasis should be on technical and applied subjects - hence liberal arts are not a significant component of education in Malawi.

The same trend has been followed by donor agencies who have sought to assist in the countries manpower training: most resources have been allocated to training personnel to fill the agricultural, strategic industry, and social services sectors.

B. Education and Manpower Training at Home

Formal education is based on a three-tier system, that is primary, secondary

and tertiary levels. The primary school programme lasts for eight years, at the end of which students sit for the Primary School Leaving Certificate. The administration and organization of primary schools is shared among the Ministry of Education and Culture, voluntary agencies, Local Education Authorities and the Community in which the school is situated. There are three types of schools: Central Government Schools, Government Assisted Schools and Unassisted Schools. The District Education Officer is overall control of education in the district. In 1980/81, 43 percent of the Education Budget was spent on Primary School Education.

Transition from primary to secondary education is low. In 1980 only 12.0 percent of those who had passed the Primary School Leaving Certificate Examination were admitted to secondary schools. Students sit for the Junior Certificate Examination after 2 years and the Malawi Certificate of Education after 4 years. In 1980/81 there were a total of 66 secondary schools, 38 of which were boarding schools and the rest day secondary schools. There is at least one day secondary school in each of the 24 districts. Of the 38 boarding schools, 4 are Government owned, 22 are Government Aided and 12 are unassisted. Almost all of the 28 day secondary schools are Government owned. In addition to the above schools there is the Kamuzu Academy, a gift to the Youth of Malawi by the Life President. Students to the Academy are drawn from each district. Whilst all secondary schools prepare students up to Ordinary Level examinations after 4 years of education, the Academy prepares for examinations up to the Advanced Level after 6 years of education. Secondary school education can also be pursued by correspondence with the Malawi Correspondence College (MCC). There were a total of 62 MCC Centres throughout the Country at the end of 1981 with an enrolment of 5,716 students under the instruction of 220 teachers. There are 15 night secondary schools throughout the country.

Vocational training in different trades is offered to people with at least J.C.E. certificate at both assisted and Government owned Technical Schools. The duration of the training differs according to the course and type of Professional Examinations a candidate will eventually sit for.

A good standard at the Malawi Certificate of Education (or G.C.E. Ordinary Level) is required for entry into the University of Malawi. The University of Malawi, with a total enrolment of in 1985, was founded in 1964 and comprises of four constituent colleges and the Malawi Institute of Education. The four colleges are: Chancellor College in Zomba, Polytechnic in Blantyre, Bunda College of Agriculture and Kamuzu College of Nursing both in Lilongwe.

The Malawi Institute of Education was created to provide on the job training for teachers and improve the standard of teaching in primary and secondary schools throughout Malawi. Professional training and qualifications in some specialist fields are, however, still not available locally and can be obtained through scholarships abroad.

The Ministry of Education and Culture was allocated approximately 11 percent of the Government Budget in 1981.

The formal literacy rates by sex for Malawi as a whole for those aged five and above increased from 20.2% and 7.6% in 1966 to 30.6% and 14.5% in 1977 (for male and female respectively).

In 1966, the proportions of the male and female population who had attended more than eight years of education were 1% and 0.2% respectively, and this was 3.3% and 1% in 1977. The proportions of who had never attended school was 54.4% and 73.0% in 1966 and 44.2% and 64.2% in 1977.

c. Students Studying Abroad

Malawi is heavily depended on external and or donor organisations in training high level manpower. Most of studies for higher degrees and specialized technical qualifications are done outside Malawi. In 1966, 106 students went to study outside Malawi and half of them went to Britain, a quarter to U.S.A. In 1985, 210 students went abroad to study in post graduate courses. By this time most undergraduated courses were being offered at home except for some courses like medicine, surveying and aviation engineering. It is still the case that half the students who study abroad go to Britain. This comes about because Britain gives special and for training to most of its ex-colonies.

In 1966 funding for students studying was mainly through the Special Commonwealth Africa, Assistance plan (SCAAP), the Malawi Government and the USAID.

By 1985 most students were being sponsored through multilateral aid, though the British Council is the single largest financial sponsor, sponsoring 74 out of the 210 postgraduate students who went abroad in 1985.

It is very difficult if not impossible to get reliable information concerning

the subjects and levels at which students were studying. The information which the DPMT uses to compile their reports is extracted from the forms which students fill when leaving and returning. It would seem that due to improper specification of the forms or inadequate supervision, and lack of appreciation of the information being supplied on part of the student - the forms contain incomplete information. It would also appear that the most important aspect at the time the student is filling the forms is the signing of the bond between the student and the government.

However, we were able to establish that in 1966 only 5 students went to do M.Sc.s and Ph.D.s. The rest went for undergraduate and A-levels, or some specialized technical courses. Of the 210 who went to study in 1985, we do not know at what level 86 of them were studying. Four and 42 went to do Ph.D. and M.Sc. respectively. The small number of Ph.D. students reflect the governments/sponsors policy or strategy of giving emphasis to M.Sc. courses. Only the University and specialized government departments (like the DAR) have training plans for Ph.D. students. About 25% of the 210 were studying for various certificates. The nature of courses in heavily weighted towards Agricultural fields.

It has not been possible to provide information on the number of degree holders for the whole country. To do this one would have to pool together statistics from the personnel training and management department (DPMT) and the University of Malawi. But the former does not have records of students returning from abroad for all years. In table 16 we show the number of students who graduated from the University of Malawi from 1967 to 1983 by sex. The cummulative total is 4,269 for all graduates. The figures may be quite representative of the true national picture for first degrees but not for M.SC.s and Ph.D.s. Usually students for M.Sc.s and Ph.D.s study abroad and this is where the returning list from DPMT would have been helpful in completing the picture.

A pertinent problem regarding training of manpower abroad is the number of highly specialized personnel who never return home. According to a recent study by DPMT on "brain drain" from Malawi, which covered the period 1950-83 - 127 students have remained abroad (or left Malawi after working a few years) on completion of a course overseas. When manpower abroad is classified by profession, the highest concentration is medicine and related fields accounting for 38 percent of the 127. Seventy-five percent of the manpower abroad never come to work in Malawi and 42% cannot come back because for one reason or another their passports were withdrawn.

The conclusion of the study was that "one can expect at most 2 individuals per annum to come back home voluntarily, only to leave again thereafter". If to this are added those who may never come back, one sees that the situation is bad enough to warrant some corrective measures. According to the report "dependency on training institutions in the developed countries simply promotes the problem". A major solution would be to re-examine the conditions of employment at home, because most of manpower abroad seems to be attracted to the good conditions offered in international labour markets.

d. Training in Research Methods

A pertinent artefact is that there is very little training in (or for) research done within Malawi. This seems to be the resultant effect of a young university which does not have extensive post-graduate programmes. Since the student body is basically undergraduate, the staff does not find itself challenged to do research to strengthen its teaching capacity, besides the students themselves do not do meaningful research. The students graduate with inadequate training in research methods and get employed in situations where there is little motivation to do original or any research at all - especially for those who enter into administrative (rather than professional) ranks.

It would be expedient if more training was given to students in research methods and if members of staff worked with students extensively in some of their research projects.

VI. SUMMARY AND CONCLUSIONS

This is a descriptive and informative report on research in Malawi. We have scanned the major research institutions in Malawi detailing their objectives, organizational structures and their financial as well as human resources. As we said at the outset, the extent of detail given for each institution depended on available information either written or oral. The foregoing enables us to make the following conclusions:

A. The Government emphasizes agricultural research

1. The government of Malawi seems to have perceived the need of institutionalized research only for agriculture.

2. This emphasis came quite naturally since Malawi is an agricultural economy.

3. Agricultural research has received a lot of financial and material support from International Organizations but apparently there has been failure to optimize the benefits that can be had from such type of support.

4. In the 1960s and early 1970s DAR emphasized scientific research: only recently have issues of economics and sociology as they affect agricultural innovation and extension been given the attention they need.

5. Most government departments are not doing the research that is necessary to improve their work. Apart from problems of lack of government established structure for conducting research, financial resources are not available; in addition many able persons are locked in the bureaucratic systems, not being available to do the technical jobs they were trained for.

6. The government has ensured the availability of strong data base for use in planning and executing government projects via the establishment of the N.S.O. But the NSO does not do research and its statistical reports though providing a wealth of figures are shallow in terms of analysis.

B. Inadequacy of Education, Training and Manpower Resources

1. The government has not clearly stated policies on education, training and manpower, however it is evident that:-

(a) It operates according to the findings of periodical surveys.

(b) Its operations are predicated by a lack of resources and need for technical manpower.

2. There is a general manpower shortage in Malawi and this is more serious in the area of research. However, the shortage is not of persons who have general educational qualifications but of those who are exposed to and experienced in research. This is tantamount to saying that if the professional manpower in Malawi as of now had enough exposure and experience in research the situation would improve.

3. Part of the reason for lack of experience in research is that the University of Malawi is mainly an undergraduate training institution. Postgraduate courses would present a better environment for exposure to research both amongst students and staff. In other words, there is very little training in research being offered within our boundaries.

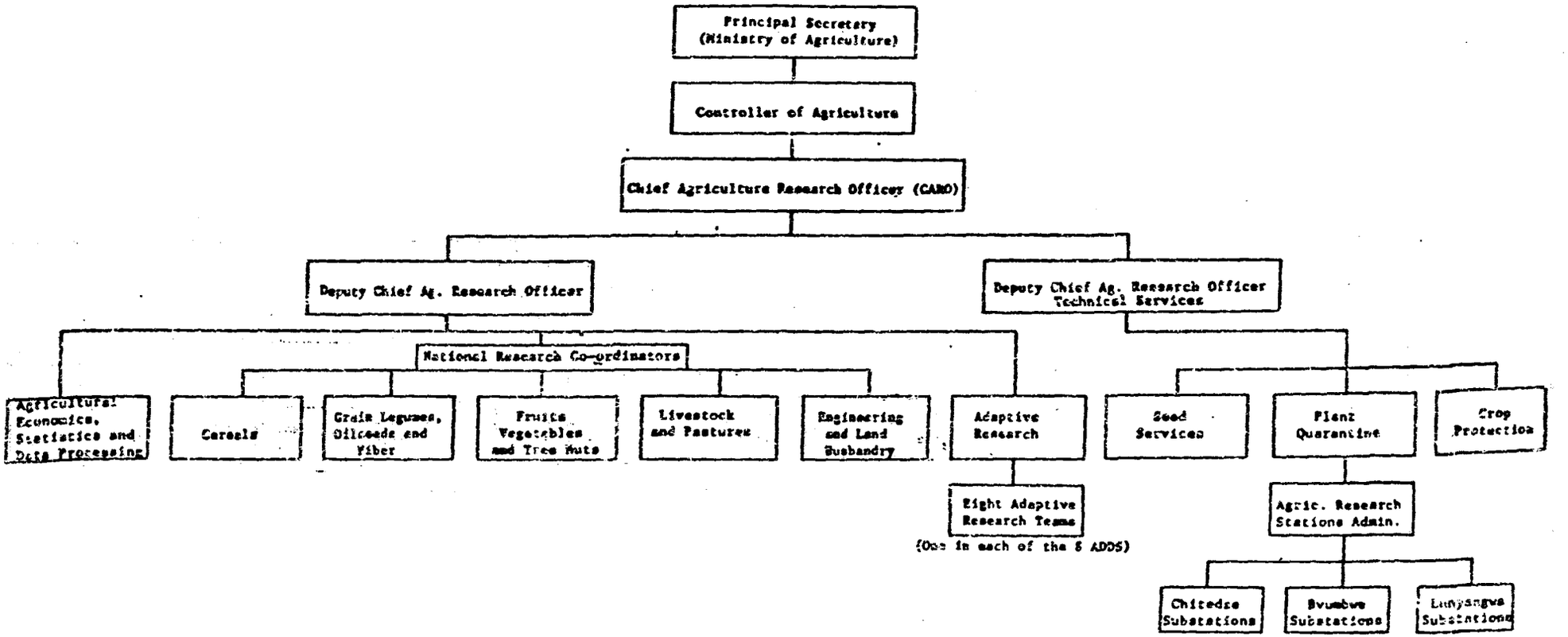
C. Structure for Co-ordination of Research Lacks Resources

1. The structure which the government has established for co-ordinating research, the NRC is probably suitable for its purpose but it lacks both manpower and financial resources.

2. Because of the deficiency mentioned above there seems to be a failure on part of NRC to establish the rapport with international financiers that will see funds flowing into the hands of Malawian researchers in frequent and bigger sums.

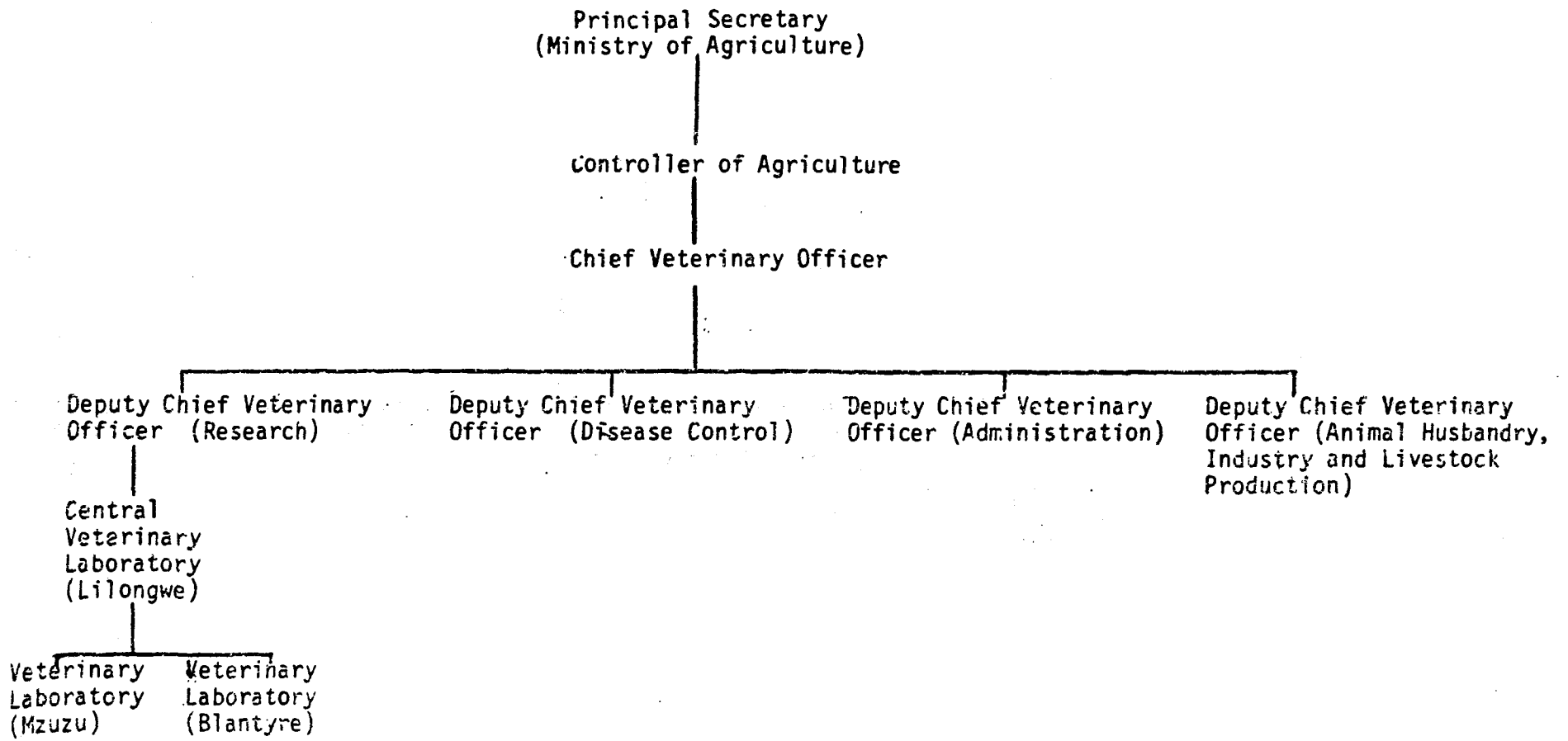
MALAWI: STUDY ON SMALL COUNTRIES RESEARCH

Figure 1: Organization Chart of the Department of Agricultural Research



Source: Data collected from the Department of Agricultural Research, Ministry of Agriculture, Lilongwe. 1985

Fig. 2: Organizational Structure of the Department of Veterinary Services

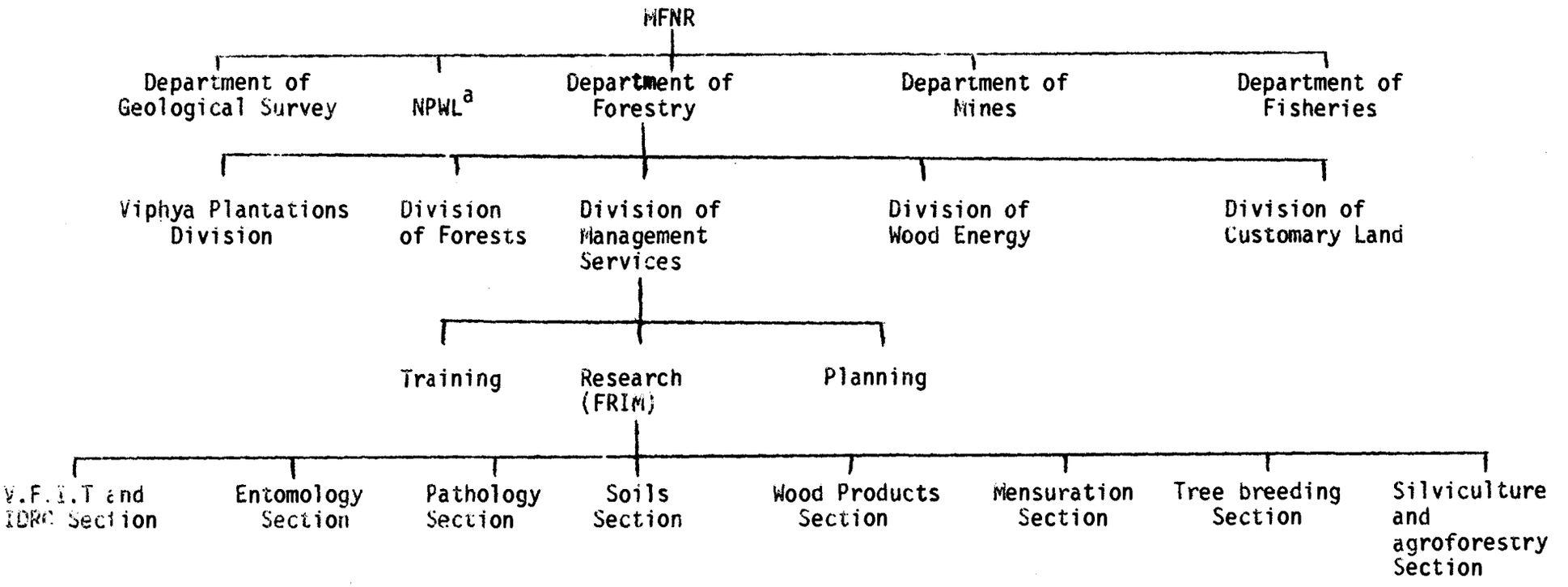


MALAWI: AGRICULTURAL RESEARCH RESOURCES ASSESSMENT

Figure 6: Organisation Chart of the Department of Veterinary Services

Source: Data collected from the Department of Veterinary Services, Ministry of Agriculture, Lilongwe, 1983.

Figure 3: Organizational Structure of FRIM



MALAWI: STUDY ON SMALL COUNTRIES RESEARCH

Table I: Growth and Structural Change in the Malawi Economy, 1964-1980

	1964	1980	Percentage Change
Growth (Millions of 1980 Kwacha)			
GDP	427.2	1010.9	136.0%
Agriculture	249.3	378.8	52.0%
Smallholder output	232.0	303.7	31.0%
Estate output	17.3	75.1	334.0%
Manufacturing	35.6	121.3	241.0%
Private services	129.4	374.3	189.0%
Public services	52.3	137.5	163.0%
Exports	81.1	231.0	185.0%
Imports	113.5	357.2	215.0%
Private Investment	12.1	83.8	593.0%
Public Investment	11.8	175.4	1386.0%
Government Revenue	47.9	171.8	259.0%
Foreign assistance	58.2	111.9	104.0%
Domestic savings	3.6	128.6	3472.0%
Structural change (percentages)			
Agriculture/GDP	58%	37%	-36%
Smallholder/Agriculture	93%	80%	-14%
Foreign savings/investment	85%	50%	-41%
Govt. Domestic Revenue/ Recurrent govt.	54%	86%	+59%

Source: Malawi, Statistical Yearbooks

Table 2 : Location, Major Activities, Staff and Funding of Agricultural Research Branch Stations, 1984

Institution	Branch Station/ Location	Principal Research Activities	Number of Staff					Budget (US$)
			Professional/ Administrative[a]	Technical		Support Services	Total	
				Diplomate	Certificate			
Dept. of Agricultural Research	Chitedze Research Station in Lilongwe	Crop breeding, agronomy, soils, seed services, livestock, pastures, farm machinery, crop storage.	>40	>30	>50	>40		252,592
	Bvumbwe Research Station in Blantyre	Tree and horticulture, crops, soil productivity, plant quarantine and protection, crop storage.	>10	>20	>50	>40		221,462
	Makoka Research Station in Zomba	Cotton breeding, agronomy, entomology, biometrics and root crops.	>10	> 5	>30	>30		162,050
	Lunyangwa Research Station in Mzuzu	General agronomy, coffee, livestock, pastures, crop storage, rice & root crops.	1	> 5	10	>10		67,231

Table 2: Location, Major Activities, Staff and Funding of Agricultural Research Branch Stations (cont.)

Institution	Branch Station/ Location	Principal Research Activities	Number of Staff					Budget (US$)
			Professional/ Administrative[a]	Technical		Support Services	Total	
				Diplomate	Certificate			
Dept. of Agricultural Research, cont.	Baka Research Station in Karonga and the Meru Trial site	Substation of Lunyangwa serving the extreme north of country for variety evaluation, agronomy, cotton and plant protection and seed services.	-	5	14	18		66,923
	Makhanga Research Station in Nsanje	Research on rainfed and irrigated crops; maize, rice, groundnuts, cotton, cocoa.	-	-	9	12		59,938
	Soil Survey Research Unit in Lilongwe	Soil and land use classfication.	<5	1	6	2		18,908
	Lilongwe Headquarters	Administration of the Research Dept, Institution.	8	1	-	7		1,276.496
Dept. of Veterinary Services	Lilongwe Central Laboratory	Bacteriology, virology and feed analysis	<5	<5	<5	<10		NA[b]

Table 2: Location, Major Activities, Staff and Funding of Agricultural Research Branch Stations (cont.)

Institution	Branch Station/ Location	Principal Research Activities	Number of Staff: Professional/ Administrative[a]	Technical: Diplomate	Technical: Certificate	Support Services	Total	Budget
Dept. of Veterinary Services, cont.	Blanatyre Veterinary Laboratory	Bacteriology and diagnosis	1	<5	<5	<10		NA
	Mzuzu Veterinary Laboratory	Bacteriology and diagnosis	1	<5	<5	<10		NA
Tobacco Research	Kandiya Research Station	Burley and fire-cured tobacco	5	<5	<10	<10		NA
	Mwimba Research Station	Flue-cured and oriental tobacco	1	<5	<5	<10		NA
Tea Research Foundation	Swazi Research Station	Biochemistry, soil analysis, pathology, entomology, processing engineering, tea factory, breeding agronomy and horticulture	<3	<5	<5	<10		NA
	Mimosa Research Station	Agronomy, plant breeding and horticulture	<5	<5	<5	<10		NA

MALAWI: STUDY ON SMALL COUNTRIES RESEARCH

Table 3 : Donor-funded Agricultural Research Activities, 1984

Donor Country	Activity	Expected Results	Duration	Expatriate Technical Support (FTE)	Country Contribution (US$)	Donor Contribution (US$)
United States						
USAID	Agricultural Research	Building, equipment, and training of research personnel	1980-1984	8	135,133[a]	2,265,124[a]
USAID	Bunda College Bean/Cowpea Research	Breeding of varieties of beans/cowpeas	1982-1985	1	-	87,399[a]
United Kingdom						
UK/TC	Tobacco Research Authority	Provision of Tobacco Plant breeder	1982-	1	-	47,656[b]
UK/TC	Tea Research Foundation	Provision of biochemist and processing engineer	1982-	2	-	95,313[b]
UK/TC	Bvumbwe Agricultural Research Station	Provision of entomologist	1982	1	-	47,656[b]
UK/TC	Chitedze Agricultural Research Station	Seed technology services, crop storage and farm machinery	1982-	1	-	203,482[c] 20,462[d]

Table 3: Donor-funded Agricultural Research Activities, 1984 (cont.)

Donor Country	Activity	Expected Results	Duration	Expatriate Technical Support (FTE)	Country Contribution (US$)	Donor Contribution (US$)
Denmark DANIDA/FAO	East Coast Fever Immunization	Testing of methods of immunization in cattle against East Coast fever diseases	1982-1986	4	-	814,362
Canada IDRC	Bunda College Animal Nutrition Research	Mineral nutrition trends in natural forages	1984-1986	-	-	61,000
Others UNDP/FAO	Tobacco Research	Technical assistance for tobacco research expert and tobacco engineer	1982-1986	2	-	958,389
UNDP/FAO	Veterinary Services and Laboratories	Provision of one fellowship in Kenya	1982-1983	-	-	11,095

[a] 1984. USAID contribution to the Department of Agricultural Research from 1980-1984 is approximately US$ 10 million and to the CRSP programme from 1981-1985 is approximately US$ 550,000.

[b] Initial contribution made in 1982, expended over several years until funds are exhausted. Subject to renewal.

[c] 1980

[d] 1982

Source: United Nations Development Programme, Development Assistance Report for Malawi, 1982, March, 1984.

Table 4: Analysis of Agricultural Budget Allocation in Malawi in MK '000

Year	Total Budget Allocation			Allocation to MOA & NR				Allocation to DAR			Allocation to Extension		
	Development	Revenue	Total	Development	Revenue	Total	As % of total Budget	Total	As % of total Budget	As % of Agric. Budget	Total	As % of total Budget	As % of Agric. Budget
1965	9,500	-	9,500	1,698	-	1,698	17.9	-	0	-	660	7.0	38.9
1966	12,800	17,620	30,420	2,322	2,130	4,452	14.6	308	1.0	6.9	2,042	6.7	45.9
1967	10,100	18,850	28,950	2,500	2,456	4,956	17.1	400	1.4	8.1	2,064	7.1	41.6
1968	14,000	40,300	54,300	3,942	2,814	6,756	12.4	546	1.0	8.1	3,186	5.9	47.2
1969/70 1)	21,300	52,400	73,700	6,501	2,854	9,355	12.7	571	0.8	6.1	5,759	7.8	61.6
1970/71	35,200	46,900	82,100	6,643	2,201	8,844	10.8	673	0.8	7.6	5,830	7.1	65.9
1971/72	31,200	50,500	81,700	8,878	3,201	12,079	14.8	708	0.9	5.9	7,675	9.4	63.5
1972/73	26,700	57,000	83,700	7,960	4,300	12,160	14.5	583	0.7	4.8	7,134	8.5	58.7
1973/74	30,200	61,700	91,900	9,600	4,900	14,500	15.8	831	0.9	5.7	8,302	9.0	57.3
1974/75	40,800	78,800	119,600	13,100	5,500	18,600	15.6	893	0.8	4.8	10,310	8.6	55.4
1975/76	70,000	84,400	154,400	13,980	6,380	20,360	13.2	991	0.6	4.9	10,784	7.0	53.0
1976/77	55,900	93,600	149,500	12,090	7,950	20,040	13.4	1,218	0.8	6.1	11,092	7.4	55.3
1977/78	76,600	108,300	184,900	15,920	9,180	25,100	13.6	1,524	0.8	6.1	14,838	8.0	59.1
1978/79	113,500	134,500	248,000	14,120	12,020	26,140	10.5	1,607	0.7	6.1	14,619	5.9	55.9
1979/80	127,900	177,900	305,800	20,200	14,350	34,550	11.3	1,894	0.6	5.5	19,758	6.5	57.2
1980/81	174,900	183,700	358,600	23,180	17,440	40,620	11.3	2,611	0.7	6.4	19,300	5.4	47.5
1981/82	124,200	268,600	392,800	27,870	22,580	50,450	12.8	3,677 2)	0.9	7.3	25,783	6.6	51.1
1982/83 3)	139,600	260,700	400,300	30,520	24,640	55,160	13.8	6,274 2)	1.6	11.4	28,078	7.0	50.9
1983/84 3)	146,000	281,400	427,400	41,430	28,970	70,400	16.5	6,272	1.5	8.9	40,298	9.4	57.2
1984/85 3)	164,600	318,900	483,500	42,600	32,120	74,720	15.5	5,998	1.2	8.0	40,380	8.4	54.0

Source: Malawi Government Annual Budget Statements and information supplied by MOA economist.

Notes: 1) 1969/70 was a 15 month financial year as the Malawian Government altered the financial year's period.

2) In 1982/83 the Research Allocation is inflated due to the fact that Research had to fund fertilizer imports which were not used for Research activities. A more realisitc figure, in terms of Government's allocation to research activities is the orginal approved estimates for 1982/83 of MK 2.636 million, which give an allocation equivalent to 1.01% of total budget.

3) Estimates other figures are actual expenditure.

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Table 5: Budgetary Allocation to DAR in Relation to Agricultural GDP for selected years (MK ' 000)

Year	Agric. GDP	Allocation to Research as % of Agric. GDP
1966	107,600	0.29
1970/71	124,800	0.54
1975/76	193,700	0.51
1979/80	318,800	0.59
1980/81	346,300	0.75
1981/82	414,200	0.89
1982/83	519,200	1.21
1983/84	598,800	1.05
1984/85	634,800	0.94

Source: Malawi Government Annual Budget Statements and Economic Reports

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Table 6: Operational Budget of Research Stations in Malawi in 1981

Station	Operating Budget (Excluding Salaries) MK '000
Bvumbwe	131.5
Chitedze	186.7
Makoka	117.9
Baka	48.4
Chitala	38.0
Kasinthula	89.0
Lifuwu	64.3
Lunyangwa	56.7
Mbawa	46.4
Makhanga	56.5
Ngabu	67.9

Source: Billing (1984)

Table 7: Research Projects at Bunda College of Agriculture by Department

Department	Objective	Research Projects
Crop Production	To improve crop production at smallholder and estate	o Studies on maize/legume rotations o Selection studies with UCA maize o Pasture and fodder production and utilization o Insect pest and entomophagous arthropod population status in a mixed cropping system o Evaluation of beans, cowpeas, groundnuts, and pigeon pea cultivars for resistance to root-knot nematode o Selection for yield in pigeon pea cultivars o Bean improvement project
Agricultural Engineering	To diminish post harvest losses in storage by small farmers	o Grain drying and storage
	To obtain soil-erodability factor for some soils in the Bunda area	o The determination of the USLE (Universal Soil Loss Equation) erodability factors for soils around Bunda College
Livestock Production	To improve disease control, proper housing and feeding using locally available materials	o Studies on the effect of bitter cassava on growth and reproduction of pigs o Evaluation of crop residues--maize stover, groundnut and bean hulls--as feed for goats
	To assess reproductive performance of cattle, pigs, goats and poultry, mainly for the smallholder sector	o Evaluation of various types of rabbit housing which could be used by smallholder farmers o Evaluation of the effects of drying and temperature on protein quality in terms of available lysine
Rural Development	To help hasten agricultural change and development in rural farming communities	o Studies of agricultural change and rural development in the Lilongwe Rural Development Project o Analysis of the application of appropriate technology to farm systems in Malawi

Source: Data collected from the DEVRES/SADCC Agricultural Research Resource Assessment, 1983.

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Table 8: Tea Research Foundation Professional Staff by Discipline and by Qualification

Professional Post	Qualifications of Staff[a]					Total Filled Posts[a]
	Diploma	Bachelors	Masters	Doctorate	Vacant	
Director & Ass't/Advisor	-	2	2(2)	1(1)		5(3)
Agronomist	-	2	-	-		2
Plant Breeder	-	1(1)	1	-		2(1)
Plant Pathologist/ Entomologist	-	-	-	1(1)		1(1)
Process Engineer	-	-	1(1)	-		1(1)
Chemist	1	-	-	-		1
Biochemist	-	-	-	-	1	-
Tea Seed Oil Researcher	-	1	-	-		1
Productivity Officer	-	1(1)	-	-		1(1)
Horticulturist	1	-	-	-		1
TOTAL	2	7(2)	4(3)	2(2)	1	15(7)

[a]Numbers in parenthesis indicate those of total who are expatriates.

Source: Data collected from the DEVRES/SADCC Agricultural Research Resource Assessment, 1983.

Table 9 : Total Agricultural Research Staff, 1984

	Administrative	Professional[a]	Technical[b]	Support Staff	Total
Total Authorized Posts	18	184	158	869	1229
Positions Vacant	1	37	38	210	286
Nationals (Citizens)					
Staff in training	-	39	8	1	48
Staff on long-term leave[c]	-	1	-	-	1
Number of nationals currently in posts	14	147	120	659	943
Expressed as a percent of authorized posts	78	80	76	76	77
Expatriates					
Serving in authorized posts[d]	3	15	-	-	18
Expressed as a percent of authorized posts	17	8	-	-	1
Not in authorized posts	5	15	-	-	20
Total number of expatriates	8	30	-	-	38
Total Number of Staff	22	177	120	659	978

[a]Professional = BSc or above.

[b]Technical = diplomate.

[c]Long-term leave is leave of three months or more.

[d]Irrespective of source of funding.

Source: Data collected from the DEVRES/SADCC Agricultural Research Resource Assessment, 1984.

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Table 10 : Summary of Professional Staff Effort and Source of Funds by Programme Area of Agricultural Research, 1984[a]

Commodity-Related Programme Areas	FTE[b]	Percentage of National Research Effort
Food Crops		
Maize	5.8	4.8
Sorghum	1.5	1.3
Millet	1.0	0.8
Cassava and sweet potatoes	1.6	1.3
Pulses (Beans, Peas)	1.5	1.3
Other (Pigeon Pea)	0.3	0.3
Rice	2.0	1.7
Wheat	2.5	2.1
Subtotal, Food Crops	16.2	13.5
Commercial Crops		
Cotton	7.3	6.3
Sugar Cane	1.0	0.8
Fruit & Vegetables	6.8	5.7
Tea	9.8	8.2
Coffee	1.2	0.8
Tobacco	11.0	9.2
Groundnuts	8.6	7.2
Subtotal, Commercial Crops	45.7	38.0
Livestock/Fisheries		
Cattle beef & Dairy	6.1	5.1
Sheep	1.0	0.8
Poultry	1.0	0.8
Swine	1.3	1.1
Goats (meat)	1.3	1.1
Veterinary	0.3	0.2
Range Management	1.0	0.8

Commodity-Related Programme Areas	FTE[b]	rcentage of National Research Effort
Livestock/Fisheries (cont.)		
Other (Animal nutrition)	1.3	1.1
Pasture management	1.4	1.2
Animal husbandry	1.0	0.8
Dogs (Rabies)	0.2	0.4
Subtotal, Livestock/Fisheries	15.9	13.0
Other Programme Areas		
Agricultural Policy (Economics)	9.0	7.5
Rural Institutions	0.2	0.2
Biometrics	3.0	7.5
Other	30.5	
Subtotal, Other Programme Areas	42.7	35.5
TOTAL	120.5	100.0

[a]Professional staff are those with a BSc degree or above.

[b]FTE = Full Time Equivalent.

Source: Data collected from the DEVRES/SADCC Agricultural Research Resource Assessment, 1984.

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Table 11: Disciplines of Professional Staff Related to Agricultural Research Programme Area, 1984

Programme Area	Discipline Areas	Number of Professionals[a]						
		Nationals			Expatriates			
		BSc	MSc	PhD	BSc	MSc	PhD	Total
Food Crops								
Maize	Crop science (breeding) agronomy, crop physiology, entomology, farming systems	3	2	-	-	-	3	8
Sorghum	Crop science (breeding)	1	-	-	-	-	-	1
Millet	Crop science (breeding)	1	-	-	-	-	-	1
Cassava	Agronomy, entomology, Pathology	2	1	-	-	-	-	3
Pulses	Crop science (breeding), agronomy, physiology, microbiology, nematology, pathology, entomology	4	-	2	-	-	4	10
Tubers (Potatoes)	Crop science, (breeding), horticulture, pathology	3	1	-	-	-	-	4
Subtotal, Food Crops		14	4	2	-	-	7	27

Table 11: Disciplines of Professional Staff Related to Agricultural Research Programme Area, 1984 (cont.)

Programme Area	Discipline Areas	Number of Professionals[a] Nationals BSc	Nationals MSc	Nationals PhD	Expatriates BSc	Expatriates MSc	Expatriates PhD	Total
Commercial Crops								
Cotton	Crop science (breeding), agronomy, entomology	5	2	1	-	-	-	8
Sugarcane	Crop science, agronomy, pathology	2	-	1	-	-	-	3
Fruit/Vegetables	Entomology, crop science, horticulture, nematology, pathology	3	5	-	-	-	1	9
Tea	Crop science (breeding), agronomy, entomology, horticulture, pathology, biochemistry, agricultural engineering, extension specialists	3	2	-	1	2	2	10
Coffee	Agronomy, entomology, pathology	1	1	1	-	-	-	3
Tobacco	Crop science (breeding), agronomy, crop physiology, nematology, pathology, agricultural engineering, extension specialists	3	2	1	1	1	-	8
Subtotal, Commercial Crops		17	12	4	2	3	3	41

Table 11: Disciplines of Professional Staff Related to Agricultural Research Programme Area, 1984 (cont.)

Programme Area	Discipline Areas	Number of Professionals[a]						
		Nationals			Expatriates			
		BSc	MSc	PhD	BSc	MSc	PhD	Total
Livestock								
Cattle	Animal sciences, breeding, nutrition, pathology, physiology, production, biochemistry	5	1	7	-	1	2	16
Sheep	Animal science	1	-	-	-	-	-	1
Poultry	Animal science	2	-	-	-	-	-	2
Swine	Animal science	2	-	-	-	-	-	2
Goats, mohair milk	Animal science	3	-	-	-	-	-	3
Veterinary	Animal pathology	4	1	2	1	1	1	10
Range Management	Range ecology	1	-	-	-	-	-	1
Pasture management	Pastures	-	1	1	-	-	-	2
Subtotal, Livestock		18	3	10	1	2	3	37

Table 11: Disciplines of Professional Staff Relateddto Agricultural Research Programme Area, 1984 (cont.)

Programme Area	Discipline Areas	Number of Pfofessionals[a]						
		Nationals			Expatriates			
		BSc	MSc	PhD	BSc	MSc	PhD	Total
Other								
Farming Systems	Crop science agronomy, agric. economics, extension specialists, rural sociology	9	-	-	1	-	1	11
Land, soils and water management	Soils, microbiology, agric. chemistry	4	5	2	-	1	-	12
Irrigation	Crop science, agronomy, soils	1	1	-	-	1	-	3
Farm Power	Farm power, farm mechanization, farm structures	4	2	-	-	-	-	6
Agroforestry	Agronomy	-	-	1	-	-	1	2
Farm Storage	Crop science, entomology, pathology	-	3	1	-	-	-	4
Crop Processing	Seed technology	1	2	-	-	-	-	3
Agric. Policy	Agricultural economics	4	4	-	-	-	2	10
Subtotal, Other		23	17	4	1	2	4	51
TOTAL		54	28	17	1 3	5	15	122

[i] The total number of professionals shown does not include professionals assigned to administrative and other duties.

Source: Data collected from the DEVRES/SADCC Agricultural Research Resource Assessment, 1984.

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Table 12 : Training Plans for Staff of Research Institutions, 1984

Level	General Field of Study											
	Crop Science		Animal Science		Veterinary		Economics		Other		Total	
	F	M	F	M	F	M	F	M	F	M	F	M
Doctorate	-	6	-	1	-	1	1	1	-	2[a]	1	11
Masters	1	13	-	3	-	-	2	5	1[a]	2[b]	4	23
Bachelor	-	4	-	1	-	-	-	-	-	-	-	5
Diploma	-	-	-	-	-	-	-	-	-	-	-	-
Certificate	-	-	-	-	-	-	-	-	-	-	-	-
Short Courses	-	4	-	1	-	1	-	-	-	-	-	6

[a] Soils.

[b] Farm machinery.

Source: Agricultural Research Strategy Plan for Malawi, 1983.

Table 13: University of Malawi: Administrative and Teaching staff by faculty (excluding Bunda College of Agriculture and Kamuzu College of Nursing) for 1971/72 and 1985/86

	Year	Qualification				Malawian (on study leave)	Non Malawian	Total
		Diploma	Bachelors	Masters	Doctorate			
Central University Administration	1971/72	7	7	-	3	8	8	17
	1985/86	-	5	10	2	13(1)	4	17
Chancellor College *								
Administration and Library	1971/72	1	13	-	1	7	8	15
	1985/86	1	4	4	1	9	1	10
Humanities	1971/72	-	5	2	1	2(1)	6	8
	1985/86	-	6	23	14	31(8)	12	43
Science	1971/72	-	12	4	17	5(1)	28	33
	1985/86	-	12	22	26	38(16)	22	60
Education**	1971/72	-	21	6	-	7(1)	20	27
	1985/86	-	6	23	14	31(8)	12	43
Law and Public Administration	1971/72	-	6	3	-	1	8	9
	1985/86	-	2	9	4	12(6)	3	15
Social Science	1971/72	-	4	9	6	5(2)	12	19
	1985/86	-	3	11	12	18(5)	8	26

Table 13: University of Malawi: Administrative and Teaching staff by faculty (excluding Bunda College of Agriculture and Kamuzu College of Nursing) for 1971/72 and 1985/86

	Year	Qualification				Malawian (on study leave)	Non Malawian	Total
		Diploma	Bachelors	Masters	Doctorate			
The Polytechnic								
Administration and Library	1971/72	-	5	1	-	6	-	6
	1985/86	-	4	5	1	10	-	10
Applied Studies	1971/72	2	12	4	-	4(1)	14	18
	1985/86	1	4	13	3	18(6)	5	23
Commerce	1971/72	6	3	-	-	5	4	9
	1985/86	-	3	12	4	14(4)	5	19
Engineering	1971/72	-	7	2	-	-	9	9
	1985/86	6	4	19	3	17(7)	15	32
Totals	1971/72	16	95	31	28	50	117	167
	1985/86	8	53	151	84	211	87	298

Source: University of Malawi: Staff Lists 1971/72 and 1985/86

* For 1971/72 this is an almagamation of all faculties and departments which now fall under Chancellor College.

** For 1971/72 these figures are for Soche Hill Teacher Training College.

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Table 14: Summary of total allocations of funds granted to faculties of the University of Malawi from 1 January 1981 to 31 December 1982. Also listed are the total number of grants and publications for each Faculty/School/Office

Faculty/School/Office	Total Amount Received (1981-1982 only)	(%)	Number of Projects supported	Number of Publications
Administration Offices	K 0	-	0	10
Agriculture	27,531	(38)	16	41
Applied Studies	2,939	(4)	6	1
Centre for Social Research	0	-	0	8
Commerce	316	(<1)	1	7
Education	1,762	(2)	6	12
Engineering	3,964	(6)	5	4
Humanities	3,114	(4)	13	19
Law and Administration	5,982	(8)	12	15
Library	500	(<1)	2	0
Nursing	0	-	0	0
Science	20,087	(28)	23	70
Social Science	5,633	(8)	8	52
Total	K 71,828		92	239

Table 15: Students who left to study abroad in 1966 and 1985 by country/region of study

Place of study	1966	1985[a]
Australasia and far East	6	15
Europe	10	18
UK	55	101
USA and North America	27	25
Developing countries	8	51
Total	106	210

[a] - For 1985 figures are only for postgraduate studies

Table 16: Students who left to study abroad in 1966 and 1985 by Sponsors[a]

Sponsor	1966	1985
European governments and the E.E.C.	8	23
Britain (British Council)	1	74
Other Developed Countries	-	10
United Nations (and its agencies)	2	20
World Bank (and its agencies)	-	17
S.C.A.A.P.	28	-
Other International organizations	1	31
Developing countries	1	11
U.S.A.I.D.	19	12
Malawi Government	23	8
Private	23	4
Total	106	210

[a] Figures for 1985 are only for post-graduate studies, otherwise 574 students went to study abroad in 1985. Only 5 out of the 106 students went to do post-graduate studies in 1966.

Table 17. Graduates of the University of Malawi 1967-1975

Degree/Diploma	1967 F	1967 M	1968 F	1968 M	1969 F	1969 M	1970 F	1970 M	1971 F	1971 M	1972 F	1972 M	1973 F	1973 M	1974 F	1974 M	1975 F	1975 M
Bachelor of Science	-	-	-	-	1	14	5	18	2	18	5	23	6	22	4	25	9	16
Bachelor of Social Science	-	-	-	-	-	11	1	26	5	21	8	21	2	25	3	24	4	19
Bachelor of Arts	-	-	-	-	-	34	1	5	3	6	4	9	3	15	4	7	4	7
Bachelor of Education	-	-	-	-	-	-	-	-	-	-	3	6	2	4	-	10	2	11
B.Sc. (Agriculture)	-	-	-	-	-	-	-	-	-	3	-	13	-	12	-	9	-	15
B.Sc. (Engineering)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bachelor of Law	-	-	-	-	-	-	-	-	-	4	-	6	1	4	-	3	1	6
B.A. (Public Administration)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bachelor of Commerce	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B.A. (Honours)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LL.B. (Honours)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B.Ed. (Honours)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B.Sc. (Honours)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B.Soc. Science (Honours)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LL.M.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.A.	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	3
M.Sc.	-	-	-	-	-	2	-	-	-	-	-	-	-	1	-	-	-	-
Ph.D.	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
D.Lit.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
LL.D.	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Diploma in Education	11	20	20	18	-	-	14	21	23	24	23	17	14	19	11	19	12	36
Diploma in Pub. Admin.	-	10	-	2	-	11	-	11	-	10	-	11	1	13	3	15	-	-

Table 17: Graduates of the University of Malawi 1967-1975 (Cont.)

	1967		1968		1969		1970		1971		1972		1973		1974		1975	
	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M
Diploma in Engineering	-	-	-	17	-	23	-	22	-	29	-	32	-	29	-	35	-	42
Diploma in Management	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diploma in Agriculture	-	-	-	-	-	23	-	25	7	40	3	41	7	55	7	36	4	45
Diploma in Laboratory Technology	-	-	-	-	-	-	-	-	1	12	2	14	-	-	1	11	1	17
Diploma in Business Studies	-	-	1	23	2	20	5	18	3	24	8	21	1	26	2	34	6	34
Diploma in Technical Teaching	-	-	-	12	-	-	-	12	-	-	-	8	-	-	-	-	-	-
Diploma in Public Health	-	-	-	-	-	8	-	15	-	9	-	-	-	9	-	1	-	-
Diploma in Nursing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Certificate in Agriculture	-	-	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	-
U.C.E.	-	-	-	-	-	-	2	12	-	-	3	8	3	14	7	11	-	-
Grand Total	1	30	21	72	3	137	28	200	44	201	59	229	40	251	42	242	43	252

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Table 17: Graduates of the University of Malawi 1976-1983 (Cont.)

	1976		1977		1978		1979		1980		1981		1982		1983		Total	
	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M
Degree/Diploma																		
Bachelor of Science	2	30	2	18	1	27	1	25	2	25	4	25	8	14	3	14	55	314
Bachelor of Social Science	2	18	4	29	5	36	10	29	4	31	8	45	7	53	9	31	72	419
Bachelor of Arts	3	8	4	11	2	7	-	2	1	7	2	-	2	7	2	-	35	115
Bachellor of Education	2	6	-	11	-	3	-	4	4	6	8	11	12	31	5	22	38	125
B.Sc. (Agriculture)	-	20	1	23	-	28	1	16	5	32	5	36	6	30	5	35	23	272
B.Sc. (Engineering)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	-	14
Bachelor of Law	-	8	-	9	1	11	-	8	-	1	-	-	-	-	-	-	3	60
B.A. (Public Administration)	1	14	-	10	1	15	-	8	4	26	2	22	9	27	2	29	19	151
Bachelor of Commerce	-	-	-	-	-	-	-	-	-	-	3	11	3	11	3	18	9	40
B.A. (Honours)	-	-	-	-	-	-	1	3	3	-	-	-	1	-	1	3	6	6
LL.B. (Honours)	-	-	-	-	-	-	-	-	-	8	-	9	-	11	-	9	-	37
B.Ed. (Honours)	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	2
B.Sc. (Honours)	-	-	-	-	-	-	-	-	-	-	2	6	2	3	4	5	8	14
B.Soc. Science (Honours)	-	-	-	-	-	-	-	-	-	-	-	1	-	2	-	-	-	3
LL.M.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1
M.A.	-	-	-	1	-	-	-	1	-	1	1	-	-	-	-	-	1	8
M.Sc.	-	-	-	-	-	-	1	-	-	1	-	1	-	1	-	-	1	6
Ph.D.	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
D.Litt.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1
LL.D.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Diploma in Education	11	12	7	19	5	6	3	7	3	-	7	80	1	3	14	57	179	368
Diploma in Pub. Admin.	-	16	2	30	3	8	1	5	-	4	-	5	1	5	-	8	11	162

Table 17: Graduates of the University of Malawi 1976-1983 (Cont.)

	1976		1977		1978		1979		1980		1981		1982		1983		Total	
	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M
Diploma in Engineering	-	29	-	36	-	37	-	41	-	38	-	47	-	45	-	48	-	551
Diploma in Management	-	-	-	-	-	-	-	-	-	-	-	15	-	-	2	13	2	28
Diploma in Agriculture	2	48	3	38	3	17	14	56	3	58	22	89	24	90	20	93	119	757
Diploma in Laboratory Technology	-	-	-	22	-	-	-	-	-	-	-	-	-	-	-	-	5	76
Diploma in Business Studies	6	33	4	38	6	43	5	27	8	34	7	45	7	40	9	38	80	498
Diploma in Technical Teaching	-	-	-	-	-	11	-	19	-	-	-	11	-	16	-	-	-	89
Diploma in Public Health	-	12	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-	69
Diploma in Nursing	-	-	-	-	-	-	-	-	-	-	-	-	19	-	15	-	34	-
Certificate in Agriculture	-	-	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	15
U.C.E.	4	12	-	-	-	-	-	-	5	19	-	-	-	-	-	-	24	76
Grand Total	33	266	27	295	27	264	37	251	42	291	71	461	102	389	108	438	724	4269

Source: The Historical Development of Higher Education in Malawi: by W.E.S. Mvalo and P.R. Lungu

MALAWI: STUDY ON SMALL COUNTRIES RESEARCH

Appendix 1: Outline of Information Required from Country Studies for Study on Small Countries Research

(Showing quantitative data needed)

1. Brief Summary of Socio-economic characteristics of country (1-2 pp.)
   - include past and future growth prospects.

2. Summary data on overall research system:
   - brief history of role and organization of research;
   - government strategy and coordinating mechanism for research;
   - overall resources to research -- source (domestic or donor) and funding arrangements (direct or via government research budget).

3. Research Resources (comparison where possible with say 1965 and 1975)
   - number of research institutions: by sector, showing total number of senior and junior national and foreign research staff and estimate of time spent on research, total research funds; type of institution (university, government department, government research centre).
   - for all, or at least major, research institutions:
     - o staff numbers by level of education and experience;
     - o dependence on external funding, via projects or programmes (show which).

4. Orientation of present research activity:
   - sectoral breakdown of main research expenditure.

5. Training in higher education:
   - number of post-secondary training institutions in country; numbers of graduates by disciplinary area and level (BA, MSc. or Ph.D.);
   - number of students studying in other countries: where? and at what level? and in which areas? who is funding?

6. Links to outside research:
   - what are main external supports to national research (international or regional research institutions; institutions of other countries).

7. Donor assistance:
   - what are main sources of external funding for research? in which sectors? and what characteristics (e.g. capital or current costs; tied to provision of expatriate staff, etc.).

MALAWI: STUDY ON SMALL COUNTRIES RESEARCH

Appendix 2: Projects for which funds were obtained by and through the N.R.C.

RESEARCH PROJECT	AMOUNT APPROVED	YEAR	DONOR
1. Pasture and Fodder Production and Utilisation	US $10,300	1982	International Foundation for Science
Renewal	MK4,859.51	1983	" "
2. Mpasa and Nchila Project (Phase I)	K5,000	1982	IFS
(Phase II)	US $5,000	1985	"
3. Science and Technology Fair	US $5,000	1982	A.T.I.
4. Development of High yielding disease resistant Phaseolus and package practices for their economic production in Malawi (Renewal)	US $5,600	1982	IFS
5. Improvement and development of production practices of major indigenous vegetables in Malawi	US $9,300	....	IFS
6. The isolation and investigation of organic compounds from local plants which have medicinal or pharmaceutical uses	US $3,124.75	1983	IFS
7. Immunological Status and Characteristics of Patients with Burkitts Lymphoma	K8,800	1985	EEC
8. Conservation of Fishes in the Lake Malawi National Park	US $37,000 (K40,700.00)	1984	IUCN/WORLD WILDLIFE FUND
9. Documentation of Village Household Food Preservation and Storage Methods in Selected Agricultural Areas	K1,175.00	1984	UNICEF

MALAWI: STUDY ON SMALL COUNTRIES RESEARCH

Appendix 3: Projects Submitted to Donors by the NRC

1.	Vegetative Propagation Eucalyptus Species for the Dry Zones of Malawi for the Production of Genetically improved seeds	US$10,000.00	IFS
2.	Performance of Indigenous and Exotic Mycorrhizal Fungi in Malawi's Afforestation Programme (Renewal)	US$12,700.00	IFS
3.	Pests of Cassava in Malawi: Their diversity, distribution, biology and control	US$10,000.00	IFS
4.	Anaemia in Ntcheu District	K1,155.00	EEC
5.	Influence of reduced i-v-infusion therapy and enhanced oral fluids after laparotomies	K1,100.00	EEC
6.	Community Organisation	K22,069	Primary Health Care Oper. Research USA
7.	Polytechnic Research in Experimental Fish Ponds	K89,700.00	IDRC
8.	Development of Technology for Rural Households	K95,244	IDRC
9.	An Econometric Analysis of Demand in Malawi	K16,876.00	IDRC
10.	Increment in Beef Production in Malawi Through Modification in Management Practices	K95,500.00	IDRC
11.	Smallholder Groundnut Sheller	K4,267.40	IDRC
12.	Hundpump monitoring and maintenance training	K71,000.00	IDRC
13.	Grain Dehullers (Maize and Sorghum) Research Project	K291,060.00	IDRC
14.	Malawi National Workshop on Strategic and Project Planning and Budgeting	US$25,230.00	IDRC FAMESA

Appendix 4: Summary of individual fund allocations granted from 1 January 1981 to 31 December 1982

Project No.	Project/Publication Title	Recipient(s)	Amounts Received 1981 - 1982	**Total
7311 Ag	Bean Research Project	T.O. Edje, et al	3,616.80	33,902.19
7609 Ag	Pig Production	T.P.E. Makhambera	1,520.00	8,664.12
7810 Ag	Supplementary Feed for Lactating Goats	J.A. Ayoade	1,300.00	4,289.71
8016 Ag	Evaluation of the Groom Equipment and Eicher Tractor for Malawi Conditions	S.J. Temple and	880.00	1,850.00
8022 Ag	Studies on Maize/Legume Rotations	D. MacColl	1,676.21	2,451.66
8025 Ag	Selection of Fruit Tree and Vine Fruit Cultivars for the Central Region	M.B. Kwapata et al.	3,234.00	6,033.95
8111 Ag	An Economic Study of the Production and Marketing of Cotton in Malawi	I.K. Chaudhry	1,552.00	-
8112 Ag	Meat Preference	R.K.D. Phoya	507.00	-
8113 Ag	An Analysis of Some Factors Affecting Labour Supply in Malawi Small Holder Agriculture	D.W. Nothale	1,296.45	-
*8114 Ag	Bunda Research Bulletin: Vol. 10	T.N. Ngwira	698.40	-
8115 Ag	The Occurrence of Aflatoxins in Some Foodstuffs from Open-air Markets and Villages in Malawi	E. Chibambo	1,399.00	-
8146 Ag	Evaluation of Crop Residues as Feeds for Goats	J.A. Ayoade	2,000.00	-
8214 Ag	Vegetable Research	M.B. Kwapata	1,500.00	-
8217 Ag	The Design, Manufacture and Testing of a Corn Stalk Processor	M.A. Atiemo	880.00	-
8219 Ag	Sero Diagnosis and Serological Survey in Bovine, Small Ruminants and Avians Using Standard Antigens	J.S. Kaminjolo	3,000.00	-

Project No.	Project/Publication Title	Recipient(s)	Amounts Received 1981 - 1982	**Total
8221 Ag	Studies on the Properties, Uses and Management of Dambos in Malawi	C.A. Sichinga and H.O. Jarrett	2,471.16	-
7904 H	The Myths and Legends Behind the Praise Names of the Tumbuka	F.W.J. Mnthali	30.00	790.00
8102 H	Independent Churches in Malawi	J.C. Chakanza	353.20	-
*8128 H	Kalulu: Bulletin of Malawi Oral Literature	E.S. Timpunza Mvula	487.00	-
*8130 H	The Novels of R.C. Hutchinson	R.J. Green	342.39	-
*8131 H	Odi: Bilingual Quarterly of Malawian Writing	A.M. Lonje	800.50	-
8135 H	Secondary School English Language Characteristics - Form 1	R. Harrison	170.00	-
8137 H	The Teaching of Writing in Malawi Secondary Schools	M. Chimombo	300.00	-
8202 H	A Social and Aesthetic Analysis of the Malipenga Dance of Likoma Island	D. Kerr	48.00	-
*8206 H	Baraza (The Mask)	D. Kerr	40.00	-
*8209 H	Introduction to Malawian Oral Literature	E.S. Timpunza Mvula	100.00	-
*8210 H	Ukayendera Nzengo	E.S. Timpunza Mvula	75.00	-
8223 H	Vernacular Productions: Issues and Tasks	S.B. Chimombo	182.00	-
8009 E	Continuity and Change: A Study of the Impact of Transition	J.B. Kuthemba Mwale	366.00	972.00
8101 E	An Appraisal of Plans for Education Development in Malawi Secondary Schools Since 1967	O.M. Liwewe	113.60	-
8127 E	Children's Knowledge of Emotion	D. Gosling	201.00	-
8140 E	The Use of Draw-a-man Test to Measure Intelligence of Malawi Children	W. Hopkins	873.00	-
8205 E	Preliminary Report on Small Scale Rural Training Schemes: Cucciculum and Teaching Methods	W.J. Welsh	73.80	-
*8222 E	Primary Geography Series, Book 6	E.D. Kadzombe	135.50	-

Project No.	Project/Publication Title	Recipient(s)	Amounts Received 1981 - 1982	**Total
7913 LA	Intergrated Approach to Rural Development Planning and Administration in Malawi	H.P. Simukonda	479.20	736.95
8024 LA	Chancellor College Staff Seminars	D. Hirschmann	677.50	997.25
8109 LA	Land Law and Registration	C. Ng'ong'ola	1,325.97	-
8118 LA	The Nature, Purpose, and Functions of Public Enterprise in Malawi	H.P.M. Simukonda	539.00	-
8119 LA	The Administration of Social Welfare in Malawi	M.C.F. Du Pre	309.20	-
8123 LA	The Law of Succession in Malawi	N.D. Mhura	86.94	-
8125 LA	Research Into Company Office Files	V. Jones	140.40	-
8129 LA	Customary Family Law	B.P. Wanda	605.00	-
8138 LA	An Organisational Analysis of Lilongwe Rural Development Programmes in Malawi	I. Bothomani	870.00	-
8139 LA	Criminal Procedure and Evidence in Malawi	D. Newman	230.40	-
8224 LA	Development Policy and Planning in Malawi: The Role of Foreign Aid	J. Mayuyuka Kaunda	446.40	-
8226 LA	Law and Economy: A Case Study of the Tobacco Control Commission	M.R.E. Machika	271.80	-
7339 S	Biological Survey of Liwonde National Park	C.O. Dudley	1,438.00	4,463.00
7803 S	Biology of Malawi Dung Beetles	C.O. Dudley	769.00	1,125.00
7818 S	The Geology and Geochemistry of the Basement Complex of the Middle Shire Area	M.B. Dolozi	636.00	1,526.00
7915 S	A Study of High Beach Deposits on the Lake Malawi - Upper Shire System	R. Crossley	400.00	1,304.60
8021 S	Energetics and Metabolic Physiology of Lizards	J.W. Patterson	1,209.97	2,092.69
8028 S	Preliminary Study on Eutrophication and Pollution in Lake Chilwa	R.P. Noble	185.00	676.00

Project No.	Project/Publication Title	Recipient(s)	Amounts Received 1981 - 1982	**Total
*8107 S	Luso Journal of Science and Technology	R.A. Burnham et al.	1,168.00	-
8108 S	Geology of the Karonga Section of the Malawi Rift Valley	R. Crossley	846.00	-
8116 S	Evaluation of a New Solid Phase Support for Reptide Synthesis	R.G. Ridley	1,509.72	-
8117 S	Extraction of Potassium from Feldsapar	M.B. Dolozi and D.R. Goddard	1,350.00	-
8121 S	Gold-plating of Decorative Objects	R.A. Burnham	281.45	-
8122 S	Cytological and Ecological Studies of Malawian Liverworts	G.K. Berrie	274.17	-
8133 S	Identification of Past Lake Level Fluctuations in Lake Chilwa	P.A. Shaw	1,351.00	-
8143 S	Assessment of the Drought Resistance Characteristics of Rice Cultivars	E.Y. Sambo	670.00	-
8204 S	Electrochemical Processing of Biomass Products: Chemicals from Wood	R.A. Burnham	1,104.00	-
8208 S	Developing Appropriate Technology for Rural Households	L. Engberg	951.20	-
8211 S	The Biology of Spodoptera exempta Under Different EnvironmentAL Conditions and Its Control	D.C. Munthali	1,489.08	-
8212 S	An Ecological Study of the Pteridophyta (Ferns and Fern Allies) Near Zomba, from Zomba Mountain to Lake Chilwa	A. Berrie	277.50	-
8213 S	Extraction and Characterisation of Substances from Plants Used for Treating Leprosy, Epilepsy, Cancer and Heart Disease	E. Fabiano	1,431.00	-
*8216 S	Albatrosses	W.L.N. Tickell	380.00	-
8228 S	Sedimentation in Malawi Reservoirs	R.B. Owen	691.80	-
8229 S	Mathematics Education Project	O.M.G. Jenda	1,673.86	-
8012 SS	Malawi Journal of Social Science, Vols. 7&8	K.M.G. Phiri	800.00	2,000.00
8014 SS	Socio-economic History of Early Migrations Across Lake Malawi to 1900	K.M.G. Phiri	693.12	2,159.84

Project No.	Project/Publication Title	Recipient(s)	Amounts Received 1981 - 1982	**Total
8106 SS	Aspects of Urbanisation with Special Reference to Malawi	G.A. Banda	344.00	-
8134 SS	Matrilineality and Agricultural Development	P. Kishindo	1,233.20	-
8136 SS	An Economic History of Northern and Central Regions of Malawi c. 1890-1960	K.J. McCracken and Z.D. Kadzamira	870.00	-
8141 SS	Agricultural Change in the Lilongwe Programme Area	K.L. Bell	733.00	-
8145 SS	Mother-Child Interactions in the Acquistion of Chichewa	A.R Kamwendo	100.00	-
8207 SS	The Famine of 1949 in the Southern Province of Nyasaland	M. Vaughan	500.00	-
8220 SS	Differentiation in the Allocation of Labour Among Lake Shore Dwellers in Malawi	J.A.K. Kandawire	360.00	-
8006 AS	Low Cost Solar Energy Devices	M.R. Steel and G.E. Matoga	1,000.00	1,362.00
8104 AS	Recovery of Used Motor Oil	D.A. Sadler	429.00	-
8105 AS	Chemical Examination of Plant Extracts Need in Folk-medicine for Treatment of Epilepsy	D.D.K. Chingakule	450.00	-
8110 AS	Investigation of Bacterial Indicators of Food Contamination in Meat Retail Trade	J. Kalea, et al.	351.00	-
8142 AS	A Linguistic Investigation Into Terminology Systems of Bantu Languages: A Case of Chitumbuka Spoken in the Thoza area in Mzimba	L.J. Mphande	540.52	-
8144 AS	Size Requirements for Non Adjustable Crutches	N.S. Cooper and	168.10	-
8126 C	Equity Shares in the Nairobi Stock Exchange	J.M. Parkinson	315.94	-
8103 Eg	Low Cost, Fast Responses, Clinical Thermometer	B. Hazeltine and N.S. Cooper	231.00	-
8132 Eg	Two-phase Induction Generators	K.M. Jones	825.00	-

Project No.	Project/Publication Title	Recipient(s)	Amounts Received 1981 - 1982	**Total
8215 Eg	A Groundnut Shelling and Grading Machine	R.A. Sulaimana	1,316.50	-
8227 Eg	Temperature Control in Thermoforming of Plastics	R.A. Worth	1,079.00	-
8124 L	Medical Literature of Malawi: A Bibliography	J.J. Uta	150.00	-
8210 L	Academic Libraries: An Evaluation of Their Resources and Performance	F.M. Chimulu	349.80	-

Key: Faculty/School/Office is designated by the following:

A = Administration Office, Ag = Agriculture, AS = Applied Studies, C = Commerce, Ed = Education, Eg = Engineering, H = Humanities, LA = Law and Administration, L = University Library, N = School of Nursing, S = Science, SS = Social Science

*Publication grant

**Total funds received from the Committee since project was first initiated. These totals are only included for projects initiation prior to 1981.

MALAWI: STUDY ON SMALL COUNTRIES RESEA

NATIONAL STATISTICAL OFFICE

1982 RECOMMENDED FUNCTIONAL ORGANISATION CHART

PURPOSE: TO PROVIDE STATISTICAL INFORMATION

FUNCTIONS: The Provision of:-

1. Field Operations Services
2. Data Management Services
3. Publication, Computing and Information Services
4. Administrative Services

1 x Commissioner for Census and Statistics (P5)

.....1 x Personnel Secretary Grade II

FIELD OPERATIONS DIVISION

PURPOSE: FUNCTION 1 Above

FUNCTIONS: The Provision of:-

1. Research, Survey Design and Training Services
2. Data Collection Services
3. Cartographic Services

1 x Principal Statistician (P7)

RESEARCH, DESIGN AND TRAINING BRANCH

PURPOSE: Function 1 Above

FUNCTIONS: The Provision of:-

1. Research Services
2. Survey Design Services
3. Training Services

1 x Sen. Statistician (P8)
1 x Statistician (PO)
1 x Sen. Asst. Statistician (SEO)

DATA COLLECTION BRANCH

PURPOSE: Function 2 Above

FUNCTIONS: The Provision of:-

1. Data Preparation Services
2. Logistics Services

1 x Sen. Statistician (P8)
3 x Statistician (PO)
4 x Assistant Stat. (EO)
20 x Sen. Stat. Clerk. (SCO)
120 x Statistical Clerk (CO)

CARTOGRAPHY BRANCH

PURPOSE: Function 3 Above

FUNCTIONS: The Provision of:-

1. Mapping Services
2. Drawing Services
3. Reprographic Services

1 x Chief Cartog. (CTO)
1 x Senior Cartog. (STO)
1 x Cartographer (TO)
1 x Sen. Cartog. Asst. (STA)
2 x Tracer/Cartog. Asst. (TA)

DATA ANALYSIS DIVISION

PURPOSE: FUNCTION 2 Above

FUNCTIONS: The Provision of:-

1. Agricultural Statistical Services
2. Economic Statistical Services
3. Demographic and Social Statistical Services

1 x Assistant Commissioner for Census and Statistics (P6)

.....1 x Shorthand Typist / Steno (D3/4)

AGRICULTURE BRANCH

PURPOSE: Function 1 Above

FUNCTIONS: The Provision of:-

1. Agriculture Statistics
2. Animal Husbandry Statistics
3. Forestry Statistics

1 x Senior Stat. (P8)
2 x Statistician (PO)
1 x Chief Assistant Statistician (CEO)
1 x Sen. Assistant Statistician (SEO)
2 x Asst. Stat. (EO)
2 x Sen. Stat. Clk. (SCO)
6 x Statistical Clk. (CO)

ECONOMICS BRANCH

PURPOSE: Function 2 Above

FUNCTIONS: The Provision of:-

1. Trade, Industry and Prices Statistics
2. National Accounts and Balance of Payments Services

1 x Principal Statistician (P7)

TRADE, INDUSTRY AND PRICES

PURPOSE: Function 1 Above

FUNCTIONS: The Provision of statistics pertaining to:-

1. Trade
2. Industry
3. Prices

1 x Senior Stat. (P8)
2 x Statistician (PO)
1 x Chief Assistant Statistician (CEO)
1 x Sen. Assistant Statistician (SEO)
4 x Assistant Stat (EO)
4 x Sen. Statistical Clerk (SCO)
15 x Statistical Clerk (CO)

NATIONAL ACCTS AND BALANCE OF PAYMENTS

PURPOSE: Function 2 Above

FUNCTIONS: The Provision of:-

1. National Accounts Statistical Services
2. Balance of Payments Services

1 x Senior Stat. (P8)
2 x Statistician (PO)
1 x Chief Assistant Statistician (CEO)
1 x Sen. Assistant Statistician (SEO)
3 x Assistant Stat (EO)
3 x Sen. Statistical Clerk (SCO)

DEMOGRAPHY AND SOCIAL STATISTICS BRANCH

PURPOSE: Function 3 Above

FUNCTIONS: The Provision of:-

1. Demo and Population Census Services
2. Social Statistics Services

1 x Principal Statistician (P7)

DEMOGRAPHY AND POPULATION

PURPOSE: Function 1 Above

FUNCTIONS The Provision of:-

1. Demographic Services
2. Population Census Services

1 x Senior Stat. (P8)
2 x Statistician (PO)
1 x Chief Assistant Statistician (CEO)
1 x Sen. Assistant Statistician (SEO)
2 x Assistant Stat (EO)
4 x Sen. Statistical Clerk (SCO)

SOCIAL STATISTICS

PURPOSE: Function 2 Above

FUNCTIONS: The Provision of statistics pertaining to -

1. Labour and Manpower Services
2. Education Service
3. Health Services

1 x Senior Stat. (P8)
2 x Statistician (PO)
1 x Sen. Assistant Statistician (SEO)
3 x Assistant Statistician (EO)
4 x Sen. Statistical Clerk (SCO)

PUBLICATION, INFORMATION AND COMPUTING DIVISION

PURPOSE: FUNCTION 3 Above

FUNCTIONS: The Provision of:-

1. Computing Services
2. Publication and Information Services

1 x Principal Statistician (P7)

DATA PROCESSING BRANCH

PURPOSE: Function 1 Above

FUNCTIONS: The Provision of:-

1. Programming Services
2. Data Processing Services
3. Systems Design

1 x Sen. Systems Analyst/Prog. (P8)
1 x Systems Analyst/Prog. (PO/CEO)
2 x Sen. Programmer (SEO)
2 x Programmer (EO)
1 x Data Control Supervisor (EO) +
1 x Sen. Machine Operator (DP1)
1 x Sen. Statistical Clerk (SCO) *
6 x Machine Operator (DP 3/2)
6 x Statistical Clerk (CO) *

* Data Control Personnel

\+ Assistant Statistician (EO)

PUBLICATION AND INFORMATION BRANCH

PURPOSE: Function 2 Above

FUNCTIONS: The Provision of:-

1. Publication Services
2. Information and Sales Services
3. Library and Records Services

1 x Sen. Statistician (P8)
1 x Statistician (PO)
1 x Sen. Asst. Stat. (SEO)
1 x Assistant Stat. (EO)
1 x Library Assistant (CO)
2 x Clerical Officer (GD)(CO)

ADMINISTRATIVE DIVISION

PURPOSE: FUNCTION 4 Above

FUNCTIONS: The Provision of:-

1. Personnel and General Office Services
2. Accounting Services

1 x Sen. Administrative Officer (S8)

PERSONNEL AND OFFICE SERVICES BRANCH

PURPOSE: Function 1 Above

FUNCTIONS: The Provision of:-

1. Personnel Services
2. Secretarial Services
3. Office Sundry Services

1 x Personnel Officer (PO/CEO)
1 x Executive Officer (EO) (GD)
1 x Sen. Clerical Officer (GD)
1 x Sen. Copy Typist (D5)
4 x Clerical Officer (CO)
9 x Copy Typist (D8/7/6)
1 x Head Messenger (SCII)
1 x Head Security Guard (SCII)
1 x Sen. Duplicating Machine Operator (SCI)
1 x Duplicating Machine Operator (SCII)
3 x PBX Operator (SCII)
7 x Messenger (SC IV)
7 x Security Guard (SC IV)

ACCOUNTING BRANCH

PURPOSE: Function 2 Above

FUNCTIONS: The Provision of:-

1. Revenue Collection Services
2. Expenditure Control Services
3. Annual Estimates

1 x Sen. Asst. Accountant (SEO)
1 x Assistant Accountant (EO)
2 x Sen. Accounts Asst. (SCO)
4 x Accounts Assistant (CO)

REDRAWN BY NSO. CARTOGRAPHY BRANCH
DATE - 1ST JUNE, 1983

Appendix 5

List of projects undertaken under the auspices of the Centre for Social Research, 1980-1986

1. Integrated Basic Services: Baseline Survey - 1979/80.
2. Study of the Traditional (site and service) Housing and Squatter Areas in and around Lilongwe City - 1980.
3. Evaluation of UNICEF - assisted Women's Programmes in Malawi - 1980/81.
4. Study on Income Distribution in Malawi - 1981.
5. Evaluation of the Rural Water Supply Programme in Zomba - 1981.
6. Evaluation of the Home Management Courses Programme - 1981/82.
7. Evaluation of the Private Hospital Association of Malawi - 1982.
8. Evaluation of the Rural Growth Centres Project - 1982.
9. Evaluation of Nutrition Education Programmes in Malawi - 1982/83.
10. Review of UNICEF - assisted Primary Health Care and Maternal and Child Health (MCH) Programmes - 1982/83.
11. Review of functional Literacy Programme - 1982/83.
12. Review of the Primary School Science Curriculum - 1982/83.
13. Vocational Training and Small Scale Enterprise Survey - 1983.
14. Evaluation of the South Lunzu Traditional (site and service) Housing Schemes in Blantyre - 1983/84.
15. The Mbalachanda Integrated Project: Baseline Survey - 1984.
16. The National Physical Development Plan: Survey of Settlements 1984/85.
17. Child Raising Practices - 1984/85.
18. Evaluation of Integrated Basic Services Project - 1984/85.
19. Community Organization for Primary Health Care (with Ministry of Health) - 1984/85.
20. Entrepreneurship and Small Scale Enterprise Survey - 1984/85/86.
21. Evaluation of Fuelwood Plantations - 1985.
22. OXFAM - Malawi Country Review - 1985/86.
23. Study on Small Countries Research - Malawi - 1985/86.

NOTES

1. See for example -

   (a) "Structural change in Malawi since Independence: Consequences of a Development Strategy based on large scale Agriculture" by J. Kydd and R.E. Christiansen.

   (b) "Malawi in the 1970's: Development Policies and Economic Change" by J. Kydd.

   (c) "Agricultural Development Strategy and Agricultural Price Policy in Malawi" by I. Livingstone.

2. Malawi Government: Economic Report 1985

3. See footnote 1 above

4. The National Development Council (NDC) is the body which formulates development policy and advises the President and Cabinet.

5. Most of the information provided in the section comes from "Agricultural Resource Assessment in the SADCC countries Volume II Country Report: Malawi".

6. See section on University of Malawi for general information.

List of Acronyms and abbreviations

ARC	-	Agricultural Research Council
ARMP	-	Agricultural Research Master Plan
CSR	-	Centre for Social Research
DAR	-	Department of Agricultural Research
DVS	-	Department of Veterinary
DANIDA	-	Danish International Development Agency
DPMT	-	Department of Personnel Training and Management
EEC	-	European Economic Community
FAO	-	Food and Agricultural Organization
FRIM	-	Forestry Research Institute of Malawi
GDP	-	Gross Domestic Product
IDRC	-	International Development Research Centre
IRD	-	Integrated Rural Development
ILRAD	-	International Laboratory on Research on Animal Diseases
ICPPE	-	International Centre for Pest Physiology and Ecology
IDA	-	International Development Agency
IFC	-	International Finance Corporation
ISAR	-	International Service of Agricultural Research
IFPRI	-	International Food Policy and Research Institute
MCC	-	Malawi Correspondence College
MFNR	-	Ministry of Forestry and Natural Resources
NRDP	-	National Rural Development Programme
NRRC	-	Natural Resources Research Committee
NRC	-	National Research Council
NDC	-	National Development Council
NSO	-	National Statistics Office
NSSA	-	National Sample Survey of Agriculture
ODA	-	Overseas Development Authority
RPC	-	Research and Publications Committee (University of Malawi)
SCAAP	-	Special Commonwealth African Assistance Plan
UNICEF	-	United Nations Children's Fund
USAID	-	United States Agency for International Development